

What will be different for navigators?

Nothing will be different for navigators. They simply have to consider which system is used on the charts when reading depth data.

There will be the same amount of water in the sea as before. But it is important to remember that the depths on navigational charts are given according to the vertical chart datum of the adopted height system. Thus, the depths given on the chart and its height system, as well as the current water level in that system must be considered while navigating.

Information regarding water level is distributed by ports and made available on the Estonian Weather Service website www.ilmateenistus.ee.

In order to convert the depth data given in the Baltic height system BHS-77 into the data that corresponds to the new height system EH2000, the Estonian Land Board made available on its website a converter which enables the user to recalculate the depths according to the location.

Navigators will have to consider which system is used on charts when reading depth data.



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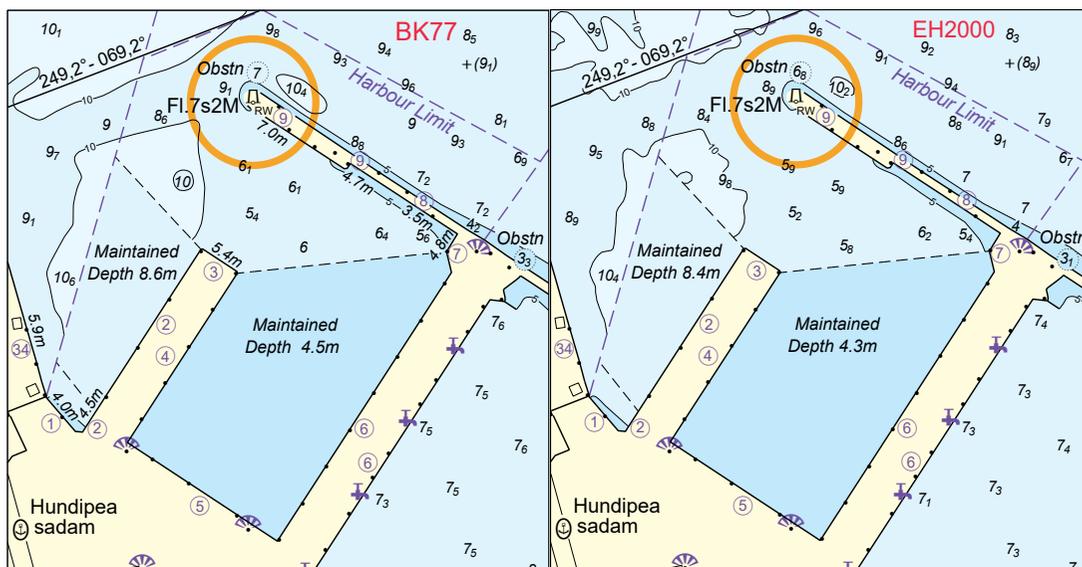
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The differences on the Hundipea harbour charts compiled according to BHS-77 (left) and EH2000 (right).



New Height System EH2000

INFORMATION FOR NAVIGATORS AND PORTS

Why? How? When?



The new height system

As of January 1, 2018, Estonia switched to the common European height system EVRS (European Vertical Reference System). Previously, the 1977 Baltic height system BHS-77 was used, in which the Kronstadt Tide Gauge served as zero point of the height system.

In Estonia, EVRS heights are marked with the abbreviation EH2000, with EH referring to Estonian Heights and 2000 to the land uplift of Fennoscandia in 2000.

The Baltic Sea states have agreed to start using on the charts of the Baltic Sea and in navigational information a common vertical chart datum called the Baltic Sea Chart Datum 2000 (BSCD2000), so all charts and reference books that are going to give heights and depths according to EH2000 will be marked by the Estonian Maritime Administration as Baltic Sea Chart Datum 2000^{EH2000}.

In simple terms, Estonia will switch from the Kronstadt Tide Gauge to the Amsterdam Ordnance Datum.

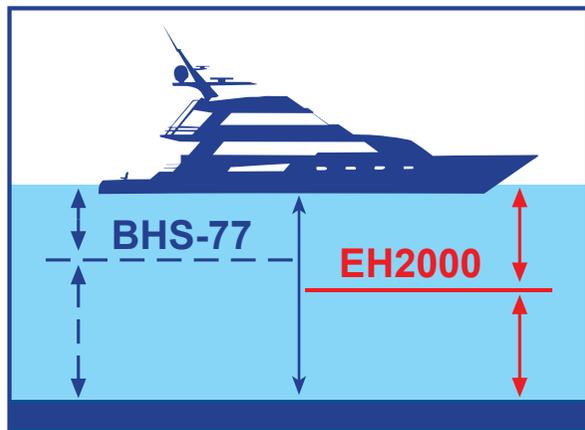


Illustration of the position of the old and new zero level.

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Why the switch?

With the new height system, all Baltic Sea states that are members of the European Union can use navigational charts and port and waterway data according to the same system.

There will be no need for calculations to switch from one height system to another when navigators are visiting countries that use the same system, and no need for considering the differences between the height systems adopted in foreign countries when navigating between their ports, for instance.

A common height system will also simplify the planning and executing of international projects.

What will change in navigational information?

The conversion will bring about changes in the Maritime Administration's databases and navigational information issued by us:

- ▶ As the zero level in EH2000 is lower than the zero level of BHS-77, all the figures indicating depths in the water bodies in Estonia will decrease and the figures indicating heights on land will increase 14-26 centimetres.
- ▶ The height will be changed in the following MA databases: hydrographic information system HIS, AtoNs database NMA, the State Port Register, and all navigational information containing information on depths, such as navigational charts and reference books.
- ▶ The figures indicating depths on navigational charts for coastal waters will, depending on the region, be 14 to 26 centimetres smaller, and the depth contours will change accordingly.

The difference between BHS-77 and EH2000 in centimetres.

Source: Estonian Land Board



When will it all change?

MA databases will switch to the new system within a three-month transition period (1 January to 31 March 2018). Issuing navigational charts in accordance with the new system will take years, as it is a labour-intensive and time-consuming process. During the transition period navigational charts in both systems will be used simultaneously.

Navigational charts compiled in accordance with both systems are suitable for navigation. It is simply necessary to make sure which system the particular chart or reference book is based on.

The MA will add a reference to the system used to all charts, reference books and GIS applications containing data on depths.

What will change for ports?

Ports will be compelled to review all their data media that contain data on depths (such as their websites together with all figures, surveys and plans, port rules, etc.) and make sure that by the end of the transition period at the latest all data on depths have a reference to the particular height system used.

Whenever possible, it is advisable to give data on depths in both height systems simultaneously, so that navigators would have time to get used to the new system.

The height systems must be marked with BHS-77 and/or EH2000, as appropriate.

There will also be changes in the State Port Register regarding depth data. In 2018 the possibility of showing depths in two height systems will be introduced.

The MA will initiate the changing of the data of all ports in the Register during the transition period and convert the depths in the Register according to the EH2000 system.