



Questionnaire to BSHC Member States on their implementation status of the transition to a Harmonised Vertical Reference, Baltic Sea Chart Datum 2000 (BSCD2000).

Please return to Thomas Hammarklint by email (thomas.hammarklint@sjofartsverket.se) at the latest by **15 August 2021**.

Member state	Russian Federation
Date of reply	2021-08-13
Point of Contact	Konstantin Speranskiy, Department of Navigation and Oceanography of the Ministry of Defense of the Russian Federation, the Head, unio@mil.ru

1. Are all the decisions done to implement the Baltic Sea Chart Datum 2000?

1.1. When the decisions has been done or planned to be done?

In accordance with the decrees of the Government of the Russian Federation in the field of the State coordinate systems of the Russian Federation including vertical reference (GSK-2011), any decisions on the transition to the harmonized vertical reference could be done not earlier than the end of GSK-2011 implementation.

1.2. What are the national decisive organizations?

All decisions in the field of the State coordinate systems of the Russian Federation including vertical reference are under responsibility of the Government of the Russian Federation.

2. What is the national status of implementation of chart datum?

2.1. What actions have already been done?

The interested organizations are informed about the BSCD2000. Implementation of the State coordinate system GSK-2011 is in progress.

2.2. What actions have been planned to be executed and what is the schedule?

Any actions including schedules, dates or periods could be planned (defined) only after the implementation of the new State coordinate system of the Russian Federation would be completed.

2.3 Which ENC Approach have been updated with the new reference datum? If possible, attach a chart datum overview covering Your countries nautical charts, designed graphically or as a table, updated around January, 2021. Also, if possible, include an attribute to each named chart describing the CD difference to BSCD2000 in cm (CD minus BSCD2000). Example attached at the end of the Questionnaire (Annex).

No information to answer this question.



2.4 If you implemented the attribute VERDAT in S-57 (ENC), are You using VERDAT=3 (Mean Sea Level)?

Yes.

3. Has Your country established the national realization of EVRS and are the water level stations connected to this new height system (BSCD2000)?

3.1 Which organization/-s is responsible for the water level stations/data in Your country?

The Federal Service for Hydrometeorology and Environmental Monitoring.

3.2 Which reference are used today to present water level information? Does Your country planning to present water level information referring to BSCD2000? Doing it already today? Date decided for change the reference to BSCD2000?

Kronshtadt Zero (The Baltic Height System 1977)

No plans or dates before the implementation of the new State coordinate system of the Russian Federation is completed.

3.3 Are there any plans for digital service/-s intended for the users to have the option to choose MSL or BSCD2000 as the reference level for water level information?

No information to answer this question.

3.4 GNSS supported UKC control/confirmation is probably the reality in a few years. We also need reliable water level predictions for carrying out optimal loading and real time water level data to check the GNSS data. Do we need a shared service in the Baltic Sea for water level information (predictions/real-time), which fulfils nautical needs and demands?

Yes.

3.5 Do we need to work together with the development of the IHO S-104 standard?

Yes.

4. Are the relevant national contacts and interest groups defined for the change of chart datum and water level reference?

4.1. What are the essential national interest groups in Your country?

4.1.1. All matters in the field of the State coordinate systems of the Russian Federation including vertical reference are under responsibility of the Government of the Russian Federation.

4.1.2. Department of Navigation and Oceanography of the Ministry of Defense of the Russian Federation.

4.1.3. The Federal Service for Hydrometeorology and Environmental Monitoring.

4.2. Are the relevant point of contacts known and contacts been made to them?

Yes.



- 4.3 Are You planning any information campaign about the change of chart datum and water level reference? If, yes have you published information about this somewhere?

An information campaign about the BSCD2000 is organized.
A cycle of publications in scientific and technical journals started in 2017.

5. Have You identified any obstacles or major issues concerning transition to the harmonized vertical reference?

- 5.1. What are the major obstacles or issues?

No information to answer this question.

- 5.2. What measures has been planned to avoid them?

No information to answer this question.

6. Connections to neighbouring countries

- 6.1. Which are the relevant countries to cooperate?

Estonia, Finland, Lithuania, Poland.

- 6.2. Are the needed points of contacts already known?

Yes.

The national Hydrographic Offices of Estonia, Finland, Lithuania, Poland.

- 6.3. What actions have been agreed with the relevant countries (e.g. synchronising plans and schedules)?

No information to answer this question.

7. Are there any needs for support from BSHC?

Nothing but information and recommendations.

8. Do you have any other proposals or guidance to the CDWG to help and foster the transition process?

Not yet.

9. Are you using GNSS and GNSS augmentation services for referring to your (bathymetric) surveys to the chart datum?

- 9.1 What GNSS augmentation service is used for hydrographic surveys? (If there are several augmentation services, list all of them.)

GPS/GLONASS Differential Stations

- 9.2 To which coordinate system, and vertical reference level/frame the GNSS augmentation service is referred to? (If there are several systems in use, list all of them.)

WGS-84, The Baltic Height System 1977



9.3 Does your HO require, in-house or procured, that Hydrographic survey system shall be prepared to be able to measuring the GNSS-height and refer the depth to the geoid?

No information to answer this question.

9.4 Do you discuss within your HO the need of an altimetric measured Mean Sea Surface (MSS)? (For example, in order to support hydrodynamic models, shipping and / or adjust existing depth data)?

No information to answer this question.

9.5 Has your HO assessed the need for dynamic geodetic reference systems (time-dependent transformation relationship) between primarily national and global reference frames?

No information to answer this question.



Annex



Example of ENC Approach from Sweden (updated 2021-06-21): **Green** cells are referring to the new chart datum BSCD2000, **purple** cells are ongoing adjustments to BSCD2000 and the rest of the cells refer to various Mean Sea Level.