

BSBD-WG Report to the BSHC 26th Conference

The Baltic Sea Bathymetry Database Working Group has not held any meeting during the last year.

1. Status of the work of BSBDWG

Since the last conference the portal has been up and running though with some interruptions on the portal itself. There have still been some timeouts on downloading of datasets. Those having experienced problems, and contacted SMA, have been directed to use the development server instead that uses the same dataset.

In March we discovered that someone had managed to write code so that they could make use of the web form, used to send mail to the BSBD team, for spamming activities. That led to that we removed the web form for emailing purposes. No breach into the actual email or other servers was made.

During the summer we became aware that the portal, as well as the BSHC homepage was unreachable. At first we thought that it was due to the wide spread attacks on the Internet that occurred about the same time. However, after a while we found out that it was the Domain registration that had expired. BSH, who originally has registered the domain, acted swiftly to rectify the problem. In total the downtime is estimated to 2-3 weeks. Alarms have now been setup so we faster can identify any malfunctions in the Domain Name Server.

Two attempts to update the portal has not been successful. However both a 500 and a 200 m DTM have been produced and is ready for upload. We are currently working on reviewing the code to find out why the publication of the new model doesn't succeed. The resources for this is though sparse.

The current physical servers have been announced to be retired by Amazon and the same tier for virtual servers will not remain after this. This forces us to move to another tier with the same or even lower cost and at the same time more powerful servers. This forces also a new setup to be created.

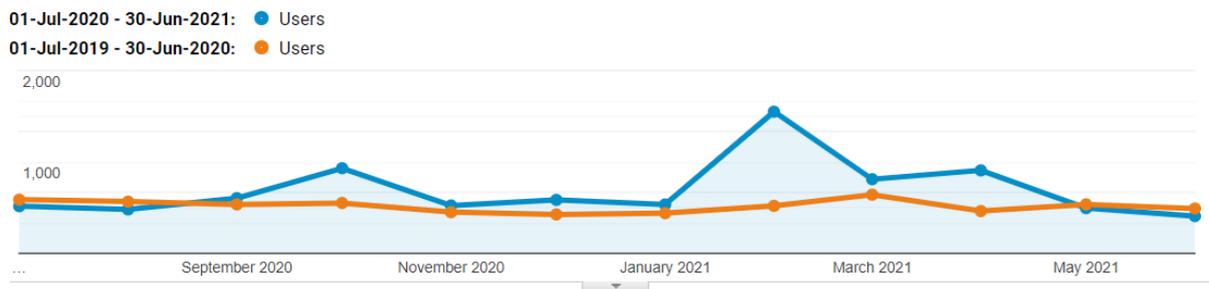
2. The use of the bathymetric database

2.1. The portal

The portal address remains as data.bshc.pro and with dev.bshc.pro as backup.

It is still widely used and the number of visits on the portal between the first of July 2019 and 30th of June 2021 is 11515 (8356 visits 2020, and 7928 visits 2019) made by 7877 unique visitors (5810 unique visitors 2019, and 5858 during 2020).

A significant spike can be seen on the 2 February 2021 when 1098 visits was made to the site in one single day.



The last year Sweden, Poland and US has been the most frequent users of the BSBD portal and together they account for nearly 45% of the visitors. New on the top ten list is China and Russia.

Country	Users	% Users
1. Sweden	2,395	30.59%
2. Poland	613	7.83%
3. United States	474	6.05%
4. China	458	5.85%
5. Finland	401	5.12%
6. Germany	356	4.55%
7. United Kingdom	229	2.93%
8. Denmark	177	2.26%
9. Estonia	169	2.16%
10. Russia	163	2.08%

Figure 1 Top ten countries using the portal July 2020-July 2021

The number of registered active links to the portal has dropped this year to 59 (previous year 73). Except from these, we know that in some places our portal is mentioned and the address is given as inactive links (plain text).

- 43% (25% for previous year) of the visitors, that use active links to reach the portal, use the link on the BSHC homepage.

The significant drop in % for the visitors from active links indicates most probably, that many users have learnt the address, or have it bookmarked in their browsers.

2.2.Downloads

We have not made any statistic images showing the areas and frequencies for downloads the last years.

We have had 15 support questions sent by email to SMA, and as usual they mainly concern downloads, format and/or questions about higher resolutions.

A Google Scholar search for "baltic sea bathymetry database" gives 123 (101 last year) hits for articles referencing to that phrase, and 8 of them has been published during 2021.

2.3.Use of OGC services

The WMS service is used by many users including regional administrations and other governmental organisations. Some users also have an internal cache service for the use in their own GIS systems. This internal cache reduces the number of downloaded tiles from our servers as they only need to download each tile once.

As an example the number of DNS-Queries for the month of April was 305,160 (161,353 year 2020, 106,980 year 2019, 100,758 year 2018, 102,324 year 2017, 37,689 year 2014, 46,847 year 2015 and 42,875 year 2016), This is only an indication and not an actual number of requests, but indicates nearly doubled traffic to our servers during this year.

3. Work Group participants

Mr. Hans Öiås has during the last year been acting as the Chair of the WG. The activity during the year has been low.

The current WG members and points of contact is:

Country	Name	E-mail address
Denmark	Jens Peter Weiss Hartmann (Used as point of contact)	jepha@gst.dk
Estonia	Peeter Väling Signe Paevere	peeter.valing@vta.ee signe.paevere@vta.ee
Finland	Juha Tiihonen Leila Rapeli	juha.tiihonen@traficom.fi Leila.Rapeli@traficom.fi
Germany	Jürgen Monk	juergen.monk@bsh.de
Latvia	Normunds Duksis	normunds.duksis@lhd.lv
Lithuania	Emilis Tertelis (Used as points of contact)	emilis.tertelis@ltsa.lrv.lt
Poland	Witold Stasiak	w.stasiak@ron.mil.pl
Russia	(No contact person appointed)	main@gunio.ru
Sweden	Hans Öiås	Hans.oias@sjofartsverket.se

4. Performed work

During the last year we have tried to update the portal functionality to support both the 500 and the 200m DTM. We have some more coding to do before this can be released. The updated BSBD 500m grid as well as a 200m model is aimed to have the same download functionality via WCS extraction.

Even though the EMODnet HRSM model seems to have higher resolution (115x57.5m at LAT 60deg.), it is still built on the same source data and gets an uneven distribution as it is not based on a projected grid.

5. Presentations

No presentation has been held or is planned for the near future.

6. Cooperation's

6.1.GEBCO

GEBCO still recognizes the BSHC database as a Regional Mapping Project. No delivery to GEBCO has been made during the last year but will be done when a new model has been published.

6.2.EMODnet

The ongoing EMODnet High Resolution Seabed Mapping II project is scheduled to be published in late spring of 2022. Christine Walder will act as Project Manager for SMA, as well as regional coordinator for the Baltic region.

SMA as well as Germany and Latvia are partners in the EMODnet "High Resolution Seabed Mapping II".

7. Future plans

Sort out the coding issues and publish the updated 500m and 200m models, less smoothed and interpolated than the Emodnet model.

Update of the coastline is planned to be made after the publication of the 200m resolution grid.

We will not request any new deliveries of data for use in BSBD before we have managed to publish the now prepared models.

We have on our development environment prepared to include the basin borders and names for presentation in the portal, but these has yet to be converted to polygons as needed for the publication.

- Optimization of the used code, production tools and documentation.

- Compile and provide additional bathymetric layers with higher resolution where the data providers and legislation permit (Germany and Estonia).
- Enhance the coastline for cutting, masking and presentation in the portal.

8. Actions for the BSHC 26th Conference

The BSHC 23d Conference is requested to:

1. Note this report