BSBD-WG Report to the BSHC 22nd 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 with one interruption on the services during 16 (when it was reported) to19 of June. The cause is unknown but may arise from some routine maintenance made by Amazon. The problem was found to be the routing of IP addresses to the servers. The same is also valid for the server where the BSHC homepage resides and also that problem was fixed at the same time.

The bathymetric model at present time is the same as the version published in December 2013.

We have continued to use the Amazon Web Services with the same setup and size of servers. Together with the server for the BSHC webpage and development server, the monthly cost is presently about 250$.

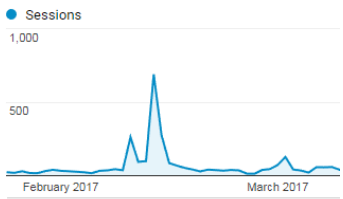
2. The use of the bathymetric database

2.1. The portal

The portal address remains as data.bshc.pro

The site is fairly widely used and the number of visits on the portal between the first of July 2016 and first of July 2017 is 11 991visits (4% less than the previous year) made by 8 757 unique visitors (5% less than the previous year= more returning visitors).

The peak number of daily visits during the period originates from the 13:th of February 2017. 689 visits were made on one day and for the period 10-13 of February we had 1144 visits.



After some research we can find that he main part of these visitors came from direct links, and links on social media, 50% from a link in an article on a Polish website http://zmianynaziemi.pl/wiadomosc/w-niemczech-odkryto-gigantyczna-strukture-pierscieniowa and others from different websites like http://ufosightingshotspot.blogspot.se/2017/02/mysterious-gigantic-ancient-ring-shaped.html

and a russian site http://earth-chronicles.ru/news/2017-02-12-101412. Sadly this interest has its origin in a geological shape found on land, and not in the sea.

As foreseen the percentage of Swedish users has decreased by a couple of percent to 23% (>85% in the beginning and 25% the previous year) and is expected to decrease further as the usage by other nationalities continues to increase. Russia remains at second place of the users and has for this period increased the use from 10.79% to 15.46%.

	Country	Sessions	% Sessions
1.	Sweden	2,649	23.09%
2.	Russia	1,774	15.46%
3.	Poland	1,642	14.31%
4.	Germany	672	5.86%
5.	Finland	631	5.50%
6.	United States	522	4.55%
7.	United Kingdom	477	4.16%
8.	Denmark	407	3.55%
9.	Hungary	226	1.97%
10.	Estonia	222	1.94%

Figure 1 Top ten countries using the portal July 2016-July 2017

The number of registered active links to the portal has decreced somewhat to 133 (previous year 176), *except from these we know that in some places our portal is mentioned and the address is given as inactive links (plain text).*

- 46% (53% for previous year) of the visitors arrive to the portal from one of the active links.
- 7% of the visitors, that use active links to reach the portal, use the link on the BSHC homepage.

2.2.Downloads

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

We have had 8 support questions sent by email to us and they mainly concerns downloads and/or questions about higher resolutions.

2.3.Use of OGC services

We know that the WMS service is used by several users. 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 102,324 (37,689 year 2014, 46,847 year 2015 and 42,875 year 2016), **238% higher** than the year before. This is only an indication and not an actual number of requests to the server due to external caching.

The HELCOM map portal can still not make use of external WMS services and for that reason redistributes the BSBD by themselves and we do not know the frequency of users on that service. For the future it would be the best solution if they could use our WMS services for use in their portal and new discussions about this should be started as soon as we have a new release.

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 manning at SMA has, except the chair been Dr. Benjamin Hell

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	juha.tiihonen@fta.fi
Germany	Jűrgen Monk	juergen.monk@bsh.de
Latvia	Normunds Duksis	normunds.duksis@lhd.lv
Lithuania	Viktoras Liulys Mindaugas Zakarauskas (Used as points of contact)	viktoras.liulys@msa.lt mindaugas.zakarauskas@msa.lt
Poland	Marcin Banaszak	m.banaszak@bhmw.gov.pl
Russia	Capt. Sergey Travin (Used as point of contact)	main@gunio.ru
Sweden	Hans Öiås Benjamin Hell	Hans.oias@sjofartsverket.se Benjamin.hell@sjofartsverket.se

Denmark, Lithuania and Russia have not appointed participants for the WG.

4. Performed work

The plans to create a newer version of the BSBD 500m grid has yet not been done. We plan for a new release at the same time as we at SMA prepare the model for the EMODNet High Resolution Bathymetry. A request for data, as well as metadata for use in BSBD and Emodnet will soon be sent out to our contacts.

5. Presentations

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

6. Cooperation's

6.1.GEBCO

GEBCO recognizes the BSHC database as a Regional Mapping Project.
No update of the GEBCO grid has been made during the last year.

6.2.EMODnet

BSBD is still used in the latest EMODnet phase 2 model, and will be used in the EMODnet High Resolution Bathymetry where no better data becomes available.

SMA as well as Germany and Latvia is a partners in the EMODnet "High Resolution Seabed Mapping" (phase III). SMA has the role of coordinator for the Baltic.

7. Financing

SMA can continue to keep the portal alive, update the model and also some additional development.

8. Future plans

Even that a new third generation EMODNet-bathymetry dataset will become available in one to two years, there is still a need for the BSBD, especially if we can create the model in higher resolution than 500m. Main reasons are:

- BSBD is based only on quality controlled datasets from HO, no unreliable sources.
- Low degree of smoothing in the modelling to indicate the actual usability of the dataset. If you zoom in too far, you will see that the data is unsuitable for use in that scale for most purposes. In EMODNet, much higher degree of smoothing is applied so the dataset looks much better than it actually is.
- Possibility to display the basin names and to add other BSHC specific information to the portal.

As new data has become available from Finland (EEZ) and a lot of new data is available over Swedish waters, a new version of the 500m model would be of much higher quality. A new version will also cover the Norwegian areas of Skagerrak. Also other countries have announced that they have newer and better data to provide.

We have on our development environment included the basin borders and names for presentation in the portal, but these needs to be adjusted to the coordinates decided by the BSICCWG before publication in a coming version 0.9.4 of the portal.

- An error has been corrected on our development server that will be corrected on the live server as soon as a new version of the bathy model is published. The problem is that some

GIS software doesn't recognise any other supported layers than pure tif images, hence no WCS data can be accessed that way. There is though no problem to download via WCS commands in a browser window using the links the portal provides. (*Those in need for it can instead connect to the development server dev.bshc.pro that actually calls on the same dataset.*)

- Update the BSBD 500 m model.
- Include Russian and Lithuanian data if it is made available for BSBD.
- Hope to get better, un-modelled datasets from Denmark and Poland.
- Optimization of the production tools and documentation.
- Compile and provide additional bathymetric layers with higher resolution where the data providers and legislation permit (Germany and Estonia). Possibly also a homogenous version that contains an up-sampled version of all other areas.
- Enhance the coastline for masking and presentation in the portal. The present coastline is taken only from Swedish nautical charts. Except for that we have received coastlines in vector format from Estonia, Poland and Germany. The separate coastlines needs to be stitched together.

9. Actions for the BSHC 22nd Conference

The BSHC 22nd Conference is requested to:

1. Note this report
2. Consent that the work with the portal continues as stated above using the WG members as a reference group.
3. Endorse future cooperation with GEBCO and EMODnet.