

BSBDWG Report to the BSHC 19th Conference

The Baltic Sea Bathymetry Database Working Group had one meeting in Norrköping in November 2013. Progress has been made in several aspects and the portal is up and running.

1. Status of the work of BSBDWG

Since the last conference the portal has been up and running with just a few minutes downtime on the viewing services. A new bathymetric model incorporating new data from Finland and Poland was made in November and published via the portal in December. From the update in December we have experienced a few interruptions on the OGC services, forcing us to restart the Mapserver software. Some minor adjustments of the setup were made in February and the platform has now been stable without any need for restarts.

The server at Amazon Web Services was upgraded prior to publishing the portal. The cost for the server lease (including a separate development server) is at present date around 170\$/month which can be further reduced if the development server is stopped when no use of it is planned.

Further tests with a 3D viewer were made in December and a solution is ready for implementation. The estimate is that it will take some 60 man-hours for inclusion and to make it possible to use the 3D engine for seamless movements over the entire dataset.

2. The use of the bathymetric database

The release was very successful and a large number of visitors have been logged. There are links to the site from around 100 sites. As Sweden is the only one that really marketed the portal at the release the percentage of Swedish Users were high (>85%) in the beginning but slowly the usage by other nationalities increases.

The portal is permanently available at data.bshc.pro.

2.1.The portal

In total (until April 30) the number of visits are 13 223, by 9 904 unique visitors.
For the last week of April the statistics states 839 visits to the portal distributed as below:

Sweden	41.72%
Denmark	22.77%
Germany	5.96%
Finland (incl. Åland)	4.32%
Poland	3.34%
Estonia	2.62%
Norway	1.31%
Russia	0.83%
Latvia	0.60%
Lithuania	0.12%

Summary of the usage by Baltic regional countries 83.59% (including Norway)

Other users are:

US	2.50%
UK	2.15%
NL	1.31%
Sum of all above	89.55%

2.2.Downloads

The statistics over downloads indicates that downloads are spread over a large number of users.

A check of the statistics was made from the IP logging until the first week of May. The IP addresses that had more than 20 downloads were back traced and the table below was extracted. Based on these IPs, downloads were made from the following countries:

Sweden	>200 ¹
Russian Federation	>50
Finland	>40
Germany	>40
Lithuania	>35

There are a total of 1389 IP addresses logged, from which 3650¹ separate downloads have been requested.

Visualizing the geographic bounds of all downloads results in the picture below, with the more requests per area the brighter the colour:

¹ The number do not contain downloads by the SMA as many requests has been made during the development work and for test purposes.

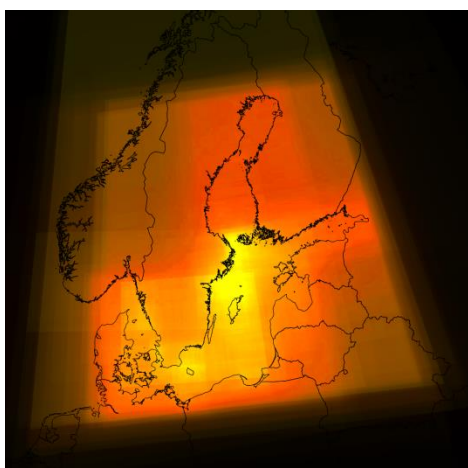


Figure 1: Amount of download requests in a specific location

2.3. Use of OGC services

It is harder to get statistics for the use of the OGC services, but we know that the WMS service is used by several clients. Known users are amongst others the SMHI (Swedish Meteorological and Hydrological Institute) and the Swedish Agency for Marine and Water Management who also presents the BSBD on their web map.

Since November 2013, the BSBD can be used as background information in the map services provided by the HELCOM map portal.

3. Work Group participants

Mr. Hans Öiås has during the last year been acting as the Chair of the WG. The WG has mainly functioned as a reference group for the MonaLisa project, and as such it has been a valuable resource.

The manning for the work has, except of the project manager Hans Öiås, been one project employee Benjamin Hell and a part time consultant from Sweco, Rasmus Ewehag (until the end of 2013).

From beginning of 2014 Benjamin Hell holds a permanent position at SMA but is only available for this project for a few per cent of his time. Rasmus Ewehag is available for a total of 100 hours and will mainly be working on documentation.

The current WG members, points of contact and consultants are:

Country	Name	E-mail address
Denmark	Stig Gelslev (Used as point of contact)	smg@gst.dk
Estonia	Peeter Väling Signe Paevere	peeter.valing@vta.ee signe.paevere@vta.ee
Finland	Juha Tiihonen	juha.tiihonen@fta.fi

Germany	Jürgen Monk	juergen.monk@bsh.de
Latvia	Normunds Duksis	normunds.duksis@lhd.lv
Lithuania	Viktoras Liulys (Used as point of contact)	viktoras.liulys@msa.lt
Poland	Marcin Banaszak	m.banaszak@mw.mil.pl
Russia	Mr S.Travin (Used as point of contact) <i>(Ekaterina Kozar has notified that she won't take part in this WG anymore)</i>	main@gunio.ru
Sweden	Hans Öiås Benjamin Hell	Hans.oias@sjofartsverket.se Benjamin.hell@sjofartsverket.se
	Consultants (Sweco)	
Sweden	Rasmus Ewehag	Rasmus.Ewehag@sweco.se

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

4. Performed work

The homogenous 500m bathymetric model was updated to version 0.9.3 in December 2013 when more data became available from Poland and Finland.

At the same time, the licensing was changed to allow commercial use of the 500m model as decided by the BSHC18 after the clarifying statement given by the Danish GST.

The license today is the Creative Commons Attribution 3.0 license (CC-BY), see <http://creativecommons.org/licenses/by/3.0/>, with additional restrictions regarding navigation.

Data deliveries for the territorial waters are still pending formal clearance in Finland. Until such clearance has been given only sea chart figures are available.

SMA has been given a general approval to use 300m resolution for the compilation of the territorial waters. In some areas higher resolutions may be used. Due to financial interest in the data, SMA will still not allow a higher resolution than 500m to be created over Swedish areas.

5. Presentations

The database has been presented at different occasions but worth mentioning is amongst others that the BSBD portal was presented at the annual Swedish Cartographic fair and that we also took part in the competition for “Best Digital Chart”.

Peeter Väling will hold a presentation of the BSBD at the 6th IEEE/OES Baltic Symposium that will be held May 26-29 in Tallinn, Estonia. The symposium theme is “*Measuring and modelling of multi-scale interactions in the marine environment*” and highlights research towards improved understanding of the marine environment as a system.

6. Cooperation's

6.1.GEBCO

In October Hans Öiås and Benjamin Hell visited the GEBCO conference. GEBCO recognizes the BSHC database as a Regional Mapping Project. The 0.9.3 model has been delivered and will be included in the upcoming GEBCO 0.5 arc minute global compilation during 2014.

6.2.EMODnet

In end of February Hans Öiås attended the combined meeting and training for EMODnet phase 2. At the meeting we presented our work and described what we can provide in terms of data. Also Mr. Bernd Vahrenkamp from BSH attended this meeting as they have joined the EMODnet project as a data contributor.

The aim for the Phase 2 in EMODnet is a resolution of $\frac{1}{8}$ arc minute. However, they prefer that all compilations are created on a $\frac{1}{16}$ arc minute grid that later is down sampled to $\frac{1}{8}$ arc minute. All modelling is recommended to be performed in the GLOBE software developed by IFREMER.

If not otherwise decided at the BSHC conference, we will deliver a $\frac{1}{4}$ arc minute compilation based on our 500m resolution in the BSBD to EMODnet for the Baltic region, excluding Danish and German areas. The German area will be provided by BSH directly. The Danish area is already included in higher resolution in EMODnet than what we are allowed to provide. Estonian areas might be delivered in the requested $\frac{1}{8}$ arc minute resolution at a later state. The time schedule for the EMODnet phase two, states that data for their next compilation should be provided by the end of May 2014.

Metadata was requested to be entered in the end of March and Metadata for the BSBD is presented on the IFREMER SEXTANT catalogue for pre-modelled grids:

http://sextant.ifremer.fr/en/web/emodnet_hydrography_cprd/catalogue

6.3.European Commission DG-MARE

In the end of 2013 SMA was working on an agreement with DG-MARE to formalize how to give the EU access to the dataset created in the BSBD. A question was sent out to all member states prior to the planned signing. Due to several reasons no signing was made. SMA is still waiting for further comments on the proposed agreement from DG-MARE. No progress has though been made during this year.

7. Financing

Until the end of 2013 the project has been 50% financed within the Swedish-Finnish EU project MonaLisa. The other 50% were Swedish government funds. A part of the funds provided by the Swedish Government still exists, and SMA got indications that we can continue to use them in order to keep the portal alive, and also for additional development. We believe that we have financing for the coming 4 years.

The MonaLisa funding made it possible for SMA to reimburse all costs for travel and accommodation for WG meetings, which will not be possible to do in the future.

8. Planned work

As new data has become available from Finland and a lot of new data is available over Swedish waters, work has started to produce a new version 0.9.4. This version will also cover the Norwegian areas of Skagerrak. The plan is to publish the new compilation before the end of May 2014.

During this work we plan to reorganize how BSBD work is carried out at SMA and will start to build up a sustainable maintenance organization, as opposed to the project organization until today.

- Include Russian and Lithuanian data as it is made available for BSBD
- Further improve the database as better data becomes available
- Further enhancement of the portal functionality.
- Optimization of the production tools and documentation.
- Add names of the regions of the Baltic Sea after formal decision has been taken by the BSHC.
- Compile and provide additional bathymetric layers with higher resolution where the data providers and legislation permit (Germany and Estonia).
- 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 only received coastlines in vector format from Estonia so far.
- Finalizing the project report to the Swedish Government.

9. Actions for the BSHC19th Conference

The BSHC 19th 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 the cooperation with GEBCO and EMODnet.
4. Provide Guidance to SMA regarding an agreement with the EC/DG-Mare