

<b>Project</b>	AtlantOS – 633211
<b>Deliverable number</b>	D2.10
<b>Deliverable title</b>	Bathymetric Vizualization
<b>Description</b>	Integration of data from at least two additional European repositories into the EuroMapApp system as pilot project to make Europe´s bathymetric data visible and usable by all.
<b>Work Package number</b>	2
<b>Work Package title</b>	Enhancement of ship-based observing networks
<b>Lead beneficiary</b>	GEOMAR
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<b>Due date</b>	2018-12-31
<b>Comments</b>	[in case the deliverable is late please explain why]



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**Stakeholder engagement relating to this task\***

<b>WHO are your most important stakeholders?</b>	<input type="checkbox"/> Private company If yes, is it an SME <input type="checkbox"/> or a large company <input type="checkbox"/> ? <input type="checkbox"/> National governmental body <input checked="" type="checkbox"/> International organization <input type="checkbox"/> NGO <input checked="" type="checkbox"/> others Please give the name(s) of the stakeholder(s): E.g. IHO DCDB, GMRT...
<b>WHERE is/are the company(ies) or organization(s) from?</b>	<input type="checkbox"/> Your own country <input type="checkbox"/> Another country in the EU <input checked="" type="checkbox"/> Another country outside the EU Please name the country(ies): Monaco, US
<b>Is this deliverable a success story? If yes, why?</b> <b>If not, why?</b>	<input checked="" type="checkbox"/> Yes, because it made clear how much effort is and will still be needed to convince data holders to make their bathymetric data freely available. Our efforts encouraged the data holders to deal with the topic of open-access data.  <input type="checkbox"/> No, because .....
<b>Will this deliverable be used?</b> <b>If yes, who will use it?</b> <b>If not, why will it not be used?</b>	<input type="checkbox"/> Yes, in case of success, by e.g. scientists for research, NGOs for monitoring protective areas, offshore companies for windfarm planning...  <input type="checkbox"/> No, because .....

**NOTE: This information is being collected for the following purposes:**

1. To make a list of all companies/organizations with which AtlantOS partners have had contact. This is important to demonstrate the extent of industry and public-sector collaboration in the obs community. Please note that we will only publish one aggregated list of companies and not mention specific partnerships.
2. To better report success stories from the AtlantOS community on how observing delivers concrete value to society.

\*For ideas about relations with stakeholders you are invited to consult [D10.5 Best Practices in Stakeholder Engagement, Data Dissemination and Exploitation](#).

## Integration of bathymetric data sets into IHO Data Centre for Digital Bathymetry from two additional European repositories

The IHO Data Centre for Digital Bathymetry (DCDB), hosted by the U.S. National Oceanographic and Atmospheric Administration (NOAA), was established to archive and share, freely and without restrictions, raw unedited single- and multibeam bathymetric data acquired by hydrographic, oceanographic and other vessels. Within AtlantOS, partner organisations have integrated their national data holdings into the IHO DCDB.

The next step was to find at least two additional repositories to join this approach. During the duration of the project, it turned out that several European countries have well organized national or institutional bathymetric data holdings and seem to be generally open regarding data sharing. However, the actual integration into an open-access repository turned out to be challenging. Even though making data publicly available is gaining momentum, there are still key players that request that bathymetric data must remain confidential due to scientific or political reasons. Bureaucratic obstacles and sometimes even scepticism also hinder the integration. Another issue seems to be the lack of personnel that can do the data compilation and integration.

For this deliverable, we were able to recruit two additional research vessels to join the ‘AtlantOS Transit Bathymetry’ that already started at the beginning of the project. In 2015, three German research vessels (RV Maria S. Merian, RV Meteor, and RV Sonne) started to collect multibeam data on their transit routes, mapping approximately 200,000 km<sup>2</sup> every year. Recently, RV Polarstern, a fourth German research vessel from the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI) and the Dutch RV Pelagia from the Royal Netherlands Institute of Sea Research (NIOZ) are currently preparing to join this approach. The data are integrated into the international Pangaea Data Publisher for Earth & Environmental Science as well as into the IHO DCDB. Data collection is actively supported by the ship’s crew and usually by the chief scientists. Of key importance for getting this support has been the commitment to make the data freely available for all.

### Experiences and Recommendations

By the time AtlantOS started, the idea of data sharing was not as widespread as it is today in the seafloor mapping community. Furthermore, the IHO DCDB web interface was still under development and did not have the functional and intuitive visualisation platform as it has today. This new platform has ensured that the DCDB has become well known within and beyond the seafloor mapping community, especially since it was appointed as main archive of the Nippon Foundation-GEBCO Seabed 2030 Project, that aims to produce the definitive map of the world ocean floor by 2030. Our work within AtlantOS has significantly contributed to the acceptance of data sharing and also the recognition of the IHO DCDB as the global archive for bathymetric data, this, especially within the European community. However, bathymetric data compilation and integration seems to be a long-term process and has shown to be most successful when it commences on a voluntary basis, at least when it is about already existing data.

For future bathymetric data acquisition, it is suggested to explore opportunities of funding agencies to make it a requirement for financial support to make data publicly available in international

repositories after a certain period of time. It is furthermore recommended that further efforts should focus on the partner organisations that have already integrated bathymetric data to the IHO DCDB by, for example, establishing a working group with bathymetry experts from each repository, provided that sustained national funding is available, where data integration can be trained and improved. This way it is also ensured that data will continue to be integrated in the future, making the previous efforts more sustainable. Such a working group also delivers a best practice example and thereby invite other countries and repositories to join this approach.