JOMOPANS
Newsletter - 2018

In January 2018 Jomopans started with a kick-off meeting in Amsterdam. I am proud that at the end of the first year we have generated the first results and also that we have generated a public interest in the topic of underwater sound with even a coverage on national television in The Netherlands and Belgium.

More than half of the planned measurement stations were already deployed in 2018 and the data from these stations are now being processed.

In this newsletter you can find more information on our work on standardization and numerical modelling of underwater sound. Detailed reports on these topics are available on the Jomopans website (www.northsearegion.eu/jomopans) or will be made available soon.

Jomopans wants to provide marine managers and policy makers with a tool to assess underwater sound in relation to marine life. To have optimal results we have involved these policy makers in the project from the start. A Policy Advisory Board is formed and met for the first time in June. Through their effort we now have a much better understanding of their needs and insight into other stakeholders.

We are now on the doorstep of the second year of Jomopans. I expect that we can make major steps in our knowledge of sound in the North Sea and that we will enjoy working together towards a novel approach to noise management.

On behalf of the Jomopans project team,
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Working towards standardization of ambient noise monitoring

At this moment, there are no international standards for monitoring ambient noise in the ocean. In JOMOPANS, there is a need to standardize some activities so that all partners use a common approach and so that data obtained within the project are comparable. Therefore, we are developing standards within the project which address this need, and which will ultimately feed into the development of international standards. The work on standardization includes a number of topics: terminology for describing the monitoring of underwater ambient noise; performance requirements, calibration and deployment of the measurement equipment; analysis of the measured data obtained from monitoring; and acoustic modelling of underwater sound field.
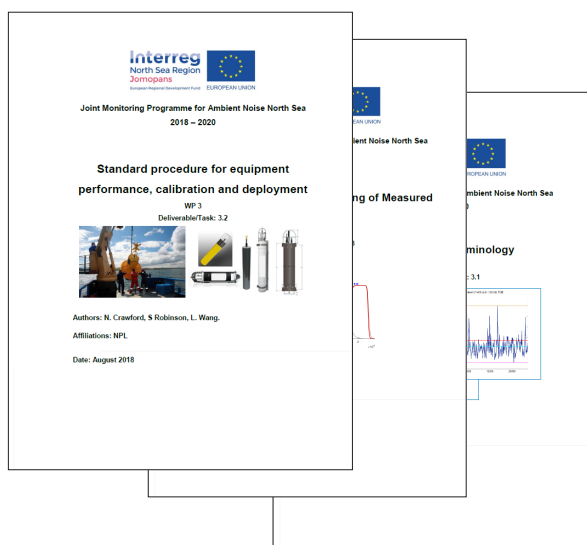
So far, in conjunction with other work-packages (such as WP5), standard procedures have been produced on (i) acoustic terminology; (ii) equipment performance, calibration and deployment, and (iii) processing of measurement data. In addition, a benchmarking exercise has been undertaken to enable partners to compare their data analysis software by processing the same sets of synthesized data of known characteristics (se next figure at the top right). A benchmarking exercise has also begun for the acoustic propagation modelling using a number of well-defined scenarios (in conjunction with WP4).
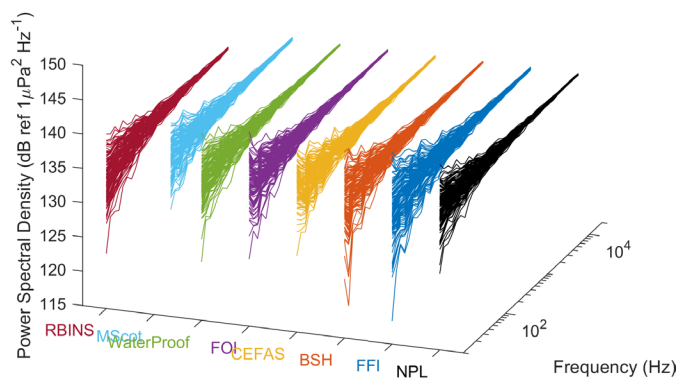
Acoustic modelling

One of the objectives of Jomopans is to generate maps of the ambient noise in the North Sea, as input for assessment of the environmental status. Appropriate modelling approaches are being selected and applied for the most important sources of sound (in first instance ships and wind) and for underwater sound propagation in the North Sea. Currently, different acoustic model implementations are being verified by means of a comparison of their output for a set of well-defined benchmark scenarios. Also, appropriate input data for the source and propagation models are being selected and evaluated. This selection and evaluation of input data is supported by a variety of sensitivity scenarios to provide insight in the expected uncertainty in the modelling results.

Below figure shows examples of the calculated sound pressure level in one-third octave bands (colour scale in dB re 1 μPa^2) as a function of range (distance from the ship) and frequency in a single ship benchmark scenario, from three different models from three different Jomopans partners. The next step will be to validate the models using the acoustic measurements carried out in 2018 at various locations in the North Sea.