



## **Assessment of contamination area of the potential leakage from dumped chemical munition in the Baltic Sea – modelling study**

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After the Second World War, during the Potsdam Conference, a decision about demilitarization of Germany was made, and as a consequence, ammunition including chemical warfare agents (CWA) was dumped into the basins of the Baltic Sea. That type of weapon was stored in metal barrels that were susceptible to corrosion. Several decades later, scientists were wondering what consequences for marine ecosystem could a leakage from such weapon bring. Although more than 70 years passed since the Second World War, the influence of potential leakage of the CWA has not been properly estimated yet.

The main goal of this work is to estimate a danger area of a potential leakage using the High Resolution Dispersion Model (HRDM). This is a two-dimensional model which covers an area of 25 by 25 kilometers. It has a horizontal resolution of 50 meters. The model is based on assumptions describing the dilution of CWA and advection-diffusion processes which are responsible for distributing the agent over the seabed. The bottom currents are taken from the operational model and interpolated over a 50-m grid. The model, except the advection and diffusion processes, consists of half-life time of contamination that depends on local temperature. The simulations have been performed for different sites that have been signed in the DAIMON project (and also two others: CHEMSEA and MODUM – but both have been already finished) as the locations with possible leakages. The half-life time cases when pollution disappears after half a day and the area of contamination mostly depends on the advection process. Due to some problems with the initial data, the results have been presented in probability form. The results for interesting points are going to be presented.

This work was carried out within the framework of project DAIMON (European Regional Development Fund (Interreg), R013 DAIMON (Decision Aid for Marine Munitions)) and project number W81/Interreg/BSR/2016 supported by Ministry of Science and Higher Education in Poland