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Ipieca

Risk assessing wrecks from the First and Second World Wars

Millions of tonnes of oil sank within ships during the conflicts of the two World Wars, with unknown quantities remaining in wrecks today. These wrecks have experienced 80-110 years of corrosion, making them increasingly fragile and prone to rupture. Oil released from these wrecks may cause damage to marine habitats and wildlife.

With thousands of wrecks lying on the seabed all over the world, the size of the challenge is daunting. Since it is not practically or economically feasible to address the pollution risk posed by all wrecks, these efforts should be prioritised according to risk, which is generally determined by the likelihood of oil release multiplied by consequence. The factors affecting the likelihood of a wreck to leak oil are numerous and complex, making it difficult, if not impossible, to accurately assess. This presentation therefore focuses on the consequence of an oil release, which can be predicted using oil spill models given a release coordinate, depth, and quantity of released oil.

We use Sintef's Oil Spill Contingency And Response (OSCAR) model to predict the fate and behaviour of oil released from a selection of wrecks lost during World Wars One and Two. The sample wrecks were chosen to lie in a broad range of locations and depths. This allows us to explore which ocean regions are subject to high and low risk of pollution from leaking wrecks.

The model results will be presented and conclusions drawn to support those managing potentially polluting wrecks globally.