



## **The Golden Trader oil spill; evaluation of operational oil spill models**

Göran Broström (1,2), Magnus Drivdal (2), Ana Carrasco (2), Kai Christensen (2), and Johan Mattsson (3)

(1) Department of Earth Sciences, Gothenburg University, Gothenburg, Sweden, (2) Norwegian Meteorological Institute, Oslo, Norway, (3) FCOO, Copenhagen, Denmark

The Golden Trader accident in September 2011 outside the Danish coast was a major oil spill (say 500-700 mt of oil but there are conflicting reports on the magnitude of the spill). There are a number of observations on the evolution of the oil spill, and in this study we investigate the performance of two different systems for operational models for forecasting oil spill trajectories. The models we compare are the official operational oil drift model for the area, namely Seatrack Web used by Danish and Swedish authorities and the OD3D model used by Norwegian authorities. We find that both models have relatively similar evolutions of the drift trajectories but there are also some important differences. The models have quite similar trajectories in the initial part of the trajectory modeling, but they deviate closer to the Swedish coast. We thus conclude that the description of processes close to the coast may be vital for accurate forecast of oil drift. The role of correctly implemented Stokes drift for the drifter trajectory will be discussed.