

A Sneak Peak at the Next Generation of Rapid Response Ocean Monitoring

CODARNOR AS, the Norwegian partner of CODAR Ocean Sensors, has been contracted to develop a self-contained rapid response SeaSonde® which can be deployed by helicopter or other means to remote and rugged locations along the Norwegian coast.

Initiated by the Norwegian Clean Seas Association for Operating Companies (NOFO) and cofinanced by Innovation Norway, the project is part of a development program aimed at improving oil spill response technology.

The current maps collected from these rapid-deployable systems will be delivered in real-time to improve oil spill response efforts by blending data with drift model currents for improved drift predictions and vessel management. Outfitting an HF radar system into a mobile unit for quick deployment is not a new idea. Groups at Texas A&M University and NOAA CO-OPS have integrated SeaSondes into vehicle-towed mobile trailers with off-the-shelf power and communications subsystems. Both groups have proven this type of integration and mobile setup successful and useful over multiple tests and deployments. Towed trailers, however, have inherent limitations such as accessible roads and travel times that are dictated by local conditions. Many coastal areas, especially in Norway, can be inaccessible by road and lack basic infrastructure, making a quick installation of an HF radar system difficult. By reducing the weight, integrating the antenna and power supply into the shelter and providing redundant communication options, it's never been quicker to deploy an HF radar for emergency situations. Lighter and faster hardware is only part of the solution, though.

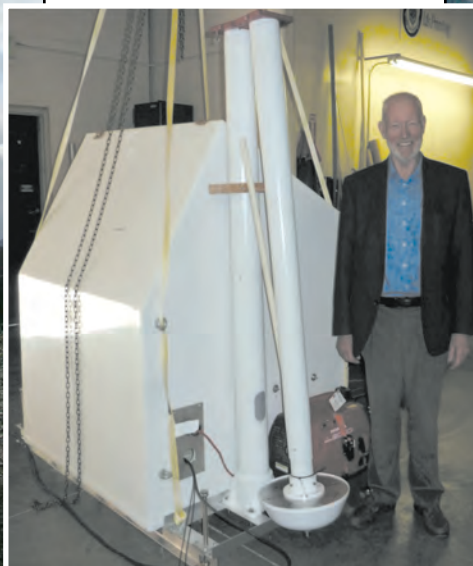
The end-users of surface current maps have to feel confident in the data delivered to them and be able to use it immediately. A dedicated web server running the PORTUS information system by Qualitas Instruments of Madrid (<http://www.qualitasremos.com/>) will serve as an interactive, user-friendly Google-based display of the data. PORTUS will provide real-time QA/QC and integrate standard products such as hourly surface current and error maps and perform Open Modal Analysis (OMA) on raw current data to fill out coverage in areas where only one site can measure or where shadowing may occur. One potential end-user of the data is also a development partner. The Norwegian Meteorological Institute (met.no) currently operates a 24-hour emergency oil spill service for Norwegian waters consisting of a suite of operational ocean models, wave forecast models and numerical weather prediction models. About 90 oil types that have been studied by SINTEF have been incorporated into their oil drift model. The information is available to the end user through a web service as well as on demand from the forecaster. Forecasters for met.no will use the OMA outputs of PORTUS to blend with model currents for improved spill response. The first rapid deployments of the prototype unit will take place late Summer in Finnmark, Norway.

Shown here is a rapid response SeaSonde in Norway.



For more information or development updates on rapid response SeaSondes, please contact Laura Pederson <laura@codar.com> or Dr. Anton Kjelaas <akjelas@online.no>, President, CODARNOR AS.

CODARNOR AS company president Dr. Anton Kjelaas seen with helicopter-deployable SeaSonde package



Representation of NOFO program rapid response SeaSonde

