

# Fugro Strengthens Metocean Modelling Capabilities

Increased interest in new development areas for oil & gas and renewable energy is resulting in a growing demand for high-quality metocean data relating to these largely unexplored regions. In response, Fugro has strengthened its numerical modelling capabilities.

Modelling the complexities of local environmental conditions requires refinement, both in the wind fields driving the models and in the model grid size. Although global models are available, their scale is often too large to capture regional features like tropical cyclones with enough accuracy.

Fugro's newly expanded team of modellers are now working to fill this gap by creating a range of small-scale regional hindcast models that are nested within coarser global versions and driven by high-quality atmospheric model data.

Of course, validation is an essential part of the modelling process. Fugro has a unique advantage in this respect with its ever-increasing bank of specific, measured metocean data from a wide range of locations around the world providing an excellent validation source.

The products and services the modelling team can provide include long-term data sets for wind, wave and current hindcast; atmospheric, wave and current forecasts; and the site-specific modelling of near-shore wave and current processes.

Fugro is also using atmospheric and current models to drive oil spill modelling software, resulting in improved accuracy in the prediction of oil spill trajectories.

Fugro is coupling current and wave models with sediment transport modules in order to derive the sediment pathways and identify the erosional and depositional areas to be considered in the planning and design of port and coastal infrastructure. The team is also addressing the impact that the construction of industrial infrastructure, such as a desalination or power plant, has on the quality of coastal waters.