



ENVIRONMENTAL SYSTEMS™

Software Solutions

Integrated Modelling & Operational Management Systems



Overview

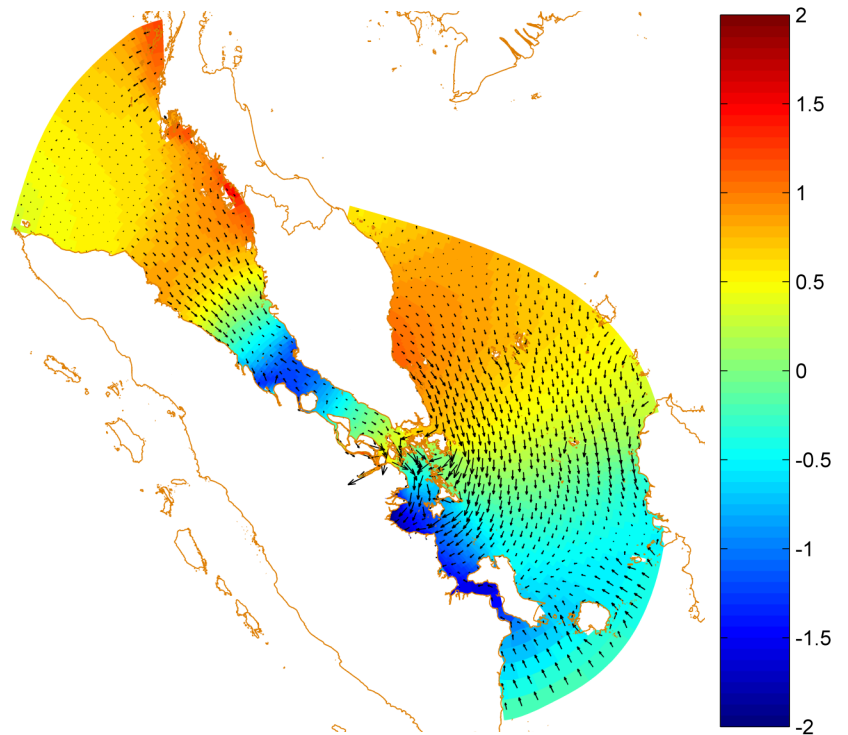
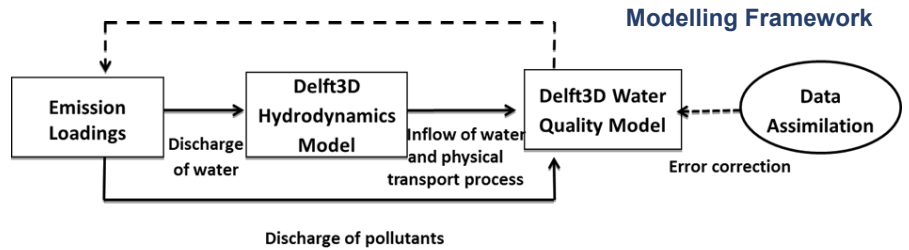
Pentair Environmental Systems (PES) have partnered with the Hydroinformatics Institute (H2I) to offer an integrated modelling system for our buoy mounted platforms. The services include developing, implementing and validating water quality predictions for fresh or coastal waters, including -

- Direct integration with the real-time monitoring network
- Development of coupled hydrodynamic and water quality models for forecast and hindcast analysis
- Data-model integration into a spatial Decision Support System (DSS)

The modelling framework uses integrative watershed model, hydrodynamic model and water quality models based on Delft3D suite of software. The models are built on boundary-fitted curvilinear orthogonal grids that compute depth-integrated flow. Models are able to simulate more than 70 water quality parameters, including - Total P, Total N, Phosphate, Ammonium, Nitrate, Chlorophyll a, Suspended Solids, Dissolved Oxygen, Total Organic Carbon (TOC), E.coli, F.coli, and Enterococcus

Specialist Expertise: Pentair design innovative environmental and water monitoring solutions. **Hydroinformatics Institute (H2I)** along with specialists from NUS and Deltares, provides intelligent data analysis and real time operational management systems for water resource management

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Hydrodynamic model output showing water level (meters)

Operational screen looking at temperature profile time series data (surface, middle profile, bottom) prior to data validation, statistical analysis and forecasting

