

Employment Opportunity: Water Quality Modeler

ERM is seeking a **Water Quality Modeler** to join our Surfacewater Modeling Group in **Exton, PA**. ERM's Surfacewater Modeling Group develops and applies multi-dimensional hydrodynamic, transport, and fate models to rivers, lakes, reservoirs, estuaries, and coastal waterbodies. Model applications are made in support of point source discharge permit applications, optimization of cooling water systems, oil spill damage assessments, contaminated sediment litigation, water quality investigations, water supply development, and TMDL studies. Our models run under a single graphical user interface known as GEMSS® (the Generalized Environmental Modeling System for Surfacewaters).

Our expertise includes hydrodynamics, computational fluid dynamics, hydrology, limnology, oceanography, water chemistry, aquatic ecology, and information technology. These disciplines are essential to developing and applying mathematical models for watershed, waterbody, and ecosystem-scale simulation.

Primary Responsibilities

- Apply multi-dimensional models to rivers, lakes, reservoirs, estuaries, and coastal water bodies and provide report sections on the applications.
- Acquire and process datasets, perform supporting calculations, and document results.
- Research and code hydrodynamic and water quality algorithms in FORTRAN; document and publish these algorithms.
- Write proposals and reports; execute projects within scope/schedule/budget expectations and ensure quality standards on deliverables.

Experience and Educational Requirements

- Environmental Engineering or Civil Engineering degree: either a master's plus work experience or a Ph.D.
- Knowledge of hydraulics, fluid mechanics, linear algebra, and environmental water chemistry.
- Demonstrated model application and report writing experience.
- Source code familiarity with POM, ECOMSED or EFDC.
- Strong aptitude for problem solving, analytical thinking, and attention to details.
- Excellent verbal and written communication skills.

Contact

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