ALDEN

Hydraulic Modeling

Alden's Hydraulic Modeling Group has been conducting model studies since 1894 to solve flow problems for utilities, engineering firms, the federal government, and vendors of hydraulic equipment. To offer the most effective method for fluid flow analysis, Alden has combined a century-long history of solving flow problems using physical models with innovative, state-of-the-art Computational Fluid Dynamics (CFD).

Projects undertaken by the Hydraulic Modeling Group include:

- Hydropower intakes
- Pump intakes
- Nuclear power plant structures/equipment
- Flood and drainage canals
- Spillway and discharge systems
- Fish passage and protection technologies
- Complex piping systems
- Water and wastewater systems
- Stormwater BMP technologies
- River mechanics
- Turbomachinery
- Industrial flow processes
- Power generation systems and components
- Coastal erosion
- Ocean energy technologies

Modeling provides a cost effective means to evaluate the performance of structures and devices before they are constructed. The cost of the model is typically recovered through improved operating efficiency and longer equipment life. For numerical modeling work, Alden has assembled a suite of one-, two-, and three-dimensional numerical modeling software packages to address a broad range of problems involving fluid flow and heat transfer. Featured software packages include MIKE21, FLUENT, FIDAP, and FLOW-3D.

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