

Established in 1983, Taylor Engineering, Inc. provides specialized technical services in water resources and coastal engineering and the environmental sciences through five operational groups:

- Coastal Engineering
- Environmental Sciences
- GIS
- Hydrology and Hydraulics
- Waterfront Engineering

Within these service areas, specific expertise includes

- Flood risk analysis and floodplain management
- Coastal engineering, hydraulics, planning, and management
- Shore protection, including coastal structures and beach nourishment
- Navigation, including dredging and dredged material management
- Marine structure planning, permitting, and design
- GIS development and programming
- Disaster assessment and emergency response
- Sediment and water quality monitoring and modeling
- Ecosystem restoration
- Environmental impact studies
- Port engineering and marina design
- Stormwater management

Taylor Engineering has completed projects throughout the United States, Caribbean Basin, and South America for public and private sector clients.

# HYDROLOGY & Hydraulics

*Cover: After Tropical Storm Fay dropped record rainfall in 2008, S-65E's award-winning emergency tailwater structure prevented catastrophic flooding of homes, communities, and agricultural areas.*

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TAYLOR ENGINEERING, INC.

At Taylor Engineering, hydrologic and hydraulic (H&H) engineers study water as it flows through the hydrologic cycle. Given a set of variables that influence water movement, they can trace water flow and identify areas prone to flood and areas likely to erode. With the aid of numerical models, they can evaluate project designs

and environmental mitigation measures from a hydrologic and hydraulic perspective. Given water's ubiquitous nature, our H&H group also supports the company's civil, coastal, dredged material, waterfront, and environmental projects.

# HYDROLOGY & Hydraulics

Within this area of expertise, we apply the following specialized services:

- Basinwide hydrologic and hydraulic modeling
- Dam and levee breach analysis and modeling
- Design of flood risk reduction and erosion protection systems
- Ecosystem restoration
- FEMA Flood Insurance Studies and LOMCs
- Floodplain management
- Flood risk evaluation
- Groundwater modeling
- Hurricane and flood damage assessments
- Hydrodynamic modeling: one-, two-, and three-D
- Minimum flows and levels (MFL)
- Non-point source water quality modeling
- Riverine sediment transport modeling
- Scour modeling and analysis
- Stakeholder outreach
- Stormwater systems management and design
- Surface and groundwater interaction modeling
- TMDL development
- Water quality studies and modeling



Top: A two-D hydrodynamic model supports a flood risk reduction system for the Rio de la Plata, Puerto Rico.

Right: EFDC model evaluates salinity changes as part of the channel modifications necessary for the Port of Jacksonville's expansion.

