

APPLIED COASTAL

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Project: Bermuda Fast Ferry Docking Facility

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Applied Coastal is currently involved in a project to construct docking facilities for a new fleet of passenger ferries, which will operate in and around the islands of Bermuda. The new system of ferries will replace and expand the service of an existing fleet of ferries, in an effort to reduce commuter traffic on Bermuda's roads.

In support of this project, Applied Coastal has provided analyses of wind, wave, and storm surge data, for the development of engineering designs for the marine facilities at nine individual locations throughout the islands. Extreme wave conditions combined with the effect of storm surge have been modeled using the U.S. Army Corps of Engineers (USACE) "Automated Coastal Engineering System" (ACES) to provide an assessment of extremal wave heights/forces for structural design. Typical wave conditions at each site are also being modeled, in order to assess the need for additional man-made wave protection (e.g., breakwaters or wave fences). For selected sites, additional modeling of wave conditions has been performed using the USACE model STWAVE, and a wave diffraction model. STWAVE is used to model the formation and refraction of wind-waves for sites that are exposed to longer fetches. The diffraction model is used to model local effect of breakwaters and other structures on waves in the immediate vicinity of the ferry terminal.

