RESUME

HAIQING LIU KACZKOWSKI, PhD, PE
Principal Engineer

Education and Academic Training
Post Doctoral Fellow – Coastal Engineering,
University of Florida (UF) – 2000-2002
PhD – Coastal Engineering,
Tianjin University (TJU), China – 1996
MS – Water Resources, TJU – 1993
BS – Civil Engineering, TJU – 1990

Experience Highlights
Dr. Kaczkowski has over 20 years of experience in coastal erosion assessment, beach restoration, and numerical modeling. She has used state-of-the-art modeling tools in conjunction with engineering experience to design successful coastal development projects located in North America, the Caribbean, the Middle East, and Asia. She currently serves as the Principal Engineer at Coastal Science & Engineering (CSE), and has developed plans and supervised construction of beach restoration and coastal structure projects in South Carolina, North Carolina, and New York. She served as the Project Engineer for the Nags Head 2011 Beach Nourishment in the Outer Banks, North Carolina. This project is the largest locally funded beach nourishment accomplished to date in the United States, and won the 2013 Engineering Excellence Award of American Council of Engineering Companies of South Carolina.

Prior to her work as an engineer, Dr. Kaczkowski worked as an Associate Professor at Tianjin University in China, and conducted post-doctoral research at the University of Florida.

Coastal Erosion Studies
Dr. Kaczkowski has served as project engineer on beach monitoring/restoration projects in North and South Carolina and New York. Major projects include Nags Head (NC) beach nourishment, Buxton beach nourishment (NC), Folly Beach County Park (SC) terminal groin, Isle of Palms (SC) shoal management, Captain Sams Inlet (SC) relocation, Kiawah Island east-end channel relocation (SC), Myrtle Beach (SC) annual monitoring/analyses, Singleton Swash stabilization (SC), Sagaponack and Bridgehampton beach nourishment (NY), and two other shoreline erosion assessment and beach restoration projects on Long Island (NY).

Numerical Modeling Skills
Dr. Kaczkowski has demonstrated numerical modeling expertise with the following models:

EFDC, WQMAP, RMA2, ADCIRC, GENESIS, SBEACH, SWAN, STWAVE, CGWAVE, BOUSS2D, SSFATE, D-CORMIX, VISUAL PLUMES, WAMVIEW

Hydrodynamic and Sediment Studies – Used 2D and 3D EFDC and WQMAP hydro-dynamic and sediment transport models to evaluate potential environmental issues of proposed projects. The model results were used to support the development of an environmental impact statement. Selected projects included a marine container terminal for SC State Ports Authority, Charleston (SC); navigation channel deepening and a container terminal for Georgia State Ports Authority, Savannah (GA); and Midnight Pass Inlet reopening, Sarasota (FL).

Shoreline Evolution Studies – Used the USACE-approved longshore sediment transport model GENESIS to evaluate shoreline evolution under normal wave conditions during various stages of the design life following the beach nourishment project. Model results were used to anticipate the potential occurrence of erosional hot spots and to optimize the nourishment design to increase the longevity of the project.

Flushing Studies – Used 2D and 3D hydrodynamic and mass-transport models to evaluate the flushing characteristics of the proposed marinas and canal systems for more than 50 projects.

Wave Studies – Used a larger-scale wave model (SWAN) to first capture the transformation of offshore waves to the nearshore region at the project site, and then used a finer-scale wave model (CGWAVE or Bouss2D) nested within the SWAN model grid to assess the local wave refraction and diffraction around a proposed breakwater structure and inside a proposed marina basin.

Storm Surge Studies –Used ADCIRC model to simulate hurricane storm-surge elevations for historic events. Wind field generated from PBL based on HURDAT storm database was used as an input in the model. Results were analyzed with EST to generate storm-surge level for different return periods.

International Experience
Dr. Kaczkowski has served as project manager for multiple projects in China involving market assessment, marina and waterfront development feasibility studies, and marina preliminary design. Clients include U.S. private investors, Middle East corporations, a China government-owned company, and Spanish private investors.

Professional Affiliations
Registered Professional Engineer (SC, NC, NY)
Certified PADI Scuba Diver
Member – American Society of Civil Engineers
Member – Association of Coastal Engineers