R&R Environmental
Connecting Minds and Delivering Success

# J Craig Swanson

## Associate Consultant: Swanson Environmental : Coastal and Marine Specialist

Dr. Swanson is a Principal Associate of Swanson Environmental Associates, which he founded in 2015. He was a Senior Associate of RPS ASA between 2011 and 2015 and a cofounder and principal of Applied Science Associates from 1979 to 2011. He received a B.S. and M.S. in Mechanical Engineering from Purdue University and the University of Bridgeport, respectively, and an M.S. and Ph.D. in Ocean Engineering from the University of Rhode Island.

His initial professional focus was on the development and use of hydrodynamic, water quality, sediment and pollutant transport computer models to provide quantitative solutions for public and private sector clients in river, lake, estuarine, coastal and shelf environments. Dr. Swanson has directed the application of these models and associated field programs to solve a wide variety of problems in these aquatic surface water environments located in the United States and abroad. He has managed a large number of projects in his career that have incorporated a number of disciplines including physical oceanography; lake, riverine, coastal and marine processes; water quality; sediment dispersion and quality; and biological impact analyses from these physical and chemical processes.
Dr. Swanson's professional activities have included:

- Industrial Advisory Board to the Ocean Engineering Department at the University of Rhode Island
- Environmental Business Council, former Rhode Island Chapter Chair and former member of the Board of Directors
- American Society of Civil Engineers, Life Member
- Marine Technology Society
- Water Environment Federation
- International Association for Hydraulic Research
- Coastal and Estuarine Research Federation

Dr. Swanson has recently served as an advisor to senior level undergraduates for OCE 495/496 Ocean Engineering Systems Design Project:

- Fall 2014 / Spring 2015: Impact of Climate Change on Rhode Island Marinas: Sea Level Rise and Storm Surge
- Fall 2015 / Spring 2016: Assessment of Damage from Storm Surge and Sea Level Rise along Matunuck Beach Road and Surrounding Communities
- Fall 2016 / Spring 2017: Assessment of Damage to the Misquamicut Beach Community from Storms and Evaluation of Mitigation Strategies
- Fall 2017 / Spring 2018: Application of Coastal Environmental Risk Index (CERI) to Providence and Fox Point Hurricane Barrier
- Fall 2018 / Spring 2019: Evaluating and Improving the Resilience of Waste Water Treatment and Hazardous Material Storage Facilities in Upper Narragansett Bay to Coastal Flooding
- Fall 2019 / Spring 2020: Improving Coastal Resilience with the Addition of Design Load Determination and Mapping Capability to CERI
- Fall 2020 / Spring 2021: Assessing the Vulnerability of a Drinking Water Reservoir in Newport, RI to the Effects of Storm Surge and Sea Level Rise

**Technical Experience/Skills Set**

- Strategic technical advice to public and private clients on solutions to marine and freshwater related environmental problems
- Expertise in coastal and estuarine circulation; offshore alternative energy and LNG related projects; climate change effects on coastal infrastructure; thermal effluents and wastewater discharge; sediment dispersion from dredging, cable and pipeline burial); pathogen and other pollutant transport and water quality (nutrients, dissolved oxygen problems
- Development and/or application of hydrodynamic, water quality and sediment dispersion models in rivers, lakes, estuaries, and coastal regions
- Expert consulting in coastal physical oceanography, environmental impact assessments, and environmental data collection and analysis
- Litigation support including expert document review, developing strategic and tactical strategies, providing expert testimony