

Resume



TIMOTHY W KANA, PhD, PG
Senior Scientist

Education

PhD, Geology (Coastal Processes), 1979,
University of South Carolina (USC)
MS, Geology (Coastal Geology), 1976,
USC
BA, Natural Sciences (Geological Oceanography), 1971, The Johns Hopkins University

Experience Highlights

Dr. Kana is an internationally recognized coastal scientist with over 20 years' experience in studies of geomorphology, coastal processes, impacts of sea-level rise, estuarine sedimentation, and beach nourishment design. He has supervised over 100 projects in the coastal zone and has been senior author of over 175 journal articles, proceedings papers, technical and consulting reports, and book chapters. Kana has conducted field reconnaissance surveys at more than 50 sites ranging from the Caribbean to Kuwait, France, West Africa, Alaska, and most of the U.S. East and Gulf Coasts.

Pioneering work by Dr. Kana includes:

- Methodology for establishing objective setback lines for coastal development based on the "profile volume" at a particular site. This methodology was incorporated into law in South Carolina (Beach Management Act of 1988/1990).
- Relocation of Captain Sams Inlet (SC), an innovative plan for beach nourishment which resulted in permanent restoration of a two-mile beach for only \$300,000 (1983). [This inlet was successfully relocated again in 1996.]
- Post-*Hugo* beach and dune restoration plan developed less than one month after the storm (1989). Kana represented the

State of South Carolina in negotiations with FEMA for this \$10 million project which helped restore 65 miles of beaches to pre-*Hugo* conditions.

- Two of the earliest case studies of the potential impacts of sea-level rise on coastal wetlands for the U.S. Environmental Protection Agency, which quantified the controlling physical conditions and processes for tidal wetlands evolution.

Dr. Kana has completed coastal erosion and sedimentation studies at a number of tropical sites, including St. Lucia, Jamaica, St. Croix, Grand Cayman, Bimini, and Andros Island. This work involved sediment sampling, mapping of nearshore reefs, measurement of coastal processes, hurricane hindcasts, turbidity measurements, riverine and estuarine profiling, and delineation of mangrove swamps.

A 1990 project in Jamaica involved a design for reduction of turbidity and renourishment of a resort beach. This project required identification and confirmation of the source of episodic turbidity, location of suitable beach-quality sand deposits, and design of a nourishment plan that was sensitive to adjacent reefs.

Expert Testimony (1982-present)

Qualified and admitted in the following areas:

- Marine geology
- Coastal processes
- Estuarine processes
- Beach erosion

He served as a U.S. representative on a United Nations panel studying shoreline erosion in Togo and Benin, West Africa (1979) and testified as an expert witness on shoreline processes in connection with the *Exxon Valdez* oil spill in Prince William Sound, Alaska (1989-1993).

Professional Affiliations

Member — American Geophysical Union
Affiliate Member — American Society of Civil Engineers
Registered Professional Geologist (South Carolina and North Carolina)