

# *RESUME for Christopher G. Creed, P.E.*

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## **Current Position**

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Senior Engineer / Vice-President for Olsen Associates, Inc. a coastal engineering consulting firm in Jacksonville, Florida.

## **Education**

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*Master of Civil Engineering*, 1992. Coastal and Oceanographic Engineering. University of Delaware.

*Bachelor of Science in Civil Engineering, Cum Laude*, 1989. North Carolina State University.

## **Fields of Competence and Experience**

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Coastal and oceanographic engineering, civil engineering in the marine environment, coastal engineering site assessment, nearshore coastal processes, physical and numerical wave, sediment transport and morphological modeling, beach nourishment and coastal structure design and implementation, wave and current dynamics, inlet and open channel hydraulics, engineering economic analysis, marina design, offshore and coastal inlet dredging, construction management, project management, and physical monitoring of marine projects.

## **Professional Experience**

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*General* - Mr. Creed has been engaged full-time in the practice of professional coastal, ocean, and port engineering consulting since 1992. He directs and participates in research, design, and project management a variety of engineering projects located in the southeastern United States, the Caribbean, and Mexico which include:

- Coastal zone management and planning
- Beach restoration
- Coastal structures
- Marina infrastructure
- Shorefront development
- Inlet sand management
- Inlet sand bypassing
- Offshore sand source site development
- Offshore dredging

His specific research and design experience includes beach fill, inlet sand bypassing, revetment, bulkhead, seawall, groin, and inlet jetty design, structure wave load assessment, numerical modeling of nearshore wave, sediment transport, shoreline change and morphological change, inlet and estuary tidal hydraulic modeling, and beach nourishment offshore borrow site development. His project management experience includes engineering, permitting, schedule and budget development and management, sub-consultant management, construction administration and oversight.

**Summary of Domestic Projects (partial listing)**

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**Broward County, Florida Federal Shore Protection Project – Segment II**

*(2009 - Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for development and preparation of Federal GRR Revision, permitting, nearshore hardbottom impacts analysis and mitigation plan development, design plans and specifications development, bidding, construction oversight and contract management, and post-project physical monitoring for a 0.5 to 1.0 Mcy beach renourishment. Construction planned for 2012.

**Shore-Stabilizing Structure Feasibility Study, Broward County, FL**

*(2008 - Present)*

Project Manager and Principal Investigator. Study included assessment of problematic beach conditions along 26-miles of shoreline that may benefit from the use of shore-stabilizing structures, development and implementation of a detailed Delft3D sediment transport and morphological model, development of shore-stabilizing structure alternatives, evaluation of alternative, formulation of recommendations, and presentation and coordination of report results with client. It is anticipated that report recommendations will be implemented during future beach management decision making in Broward County.

**Town of Hilton Head Island FIRM Remapping Project**

*(2004 - Present)*

Principal Investigator and Reviewer for island-wide FIRM remapping project. Responsible for development of input to CHAMPS and WHAFIS analysis. Also responsible for technical review, commenting, and coordination with Town, USACE, and FEMA regarding ADCIRC storm survey analysis, CHAMPS and WHAFIS analysis, and review of final map products.

**Port Royal Sound Shore Restoration and Stabilization Project, Hilton Head Island, SC**

*(2002 - Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for geotechnical sand search, background scientific analyses, project design and permitting, local interest group liaison, project bidding, construction oversight and contract management, post-construction monitoring of 0.9M cubic yard beach restoration and rubble mound terminal groin project. Construction Planned for 2011. Estimated Construction Cost \$11.0M (USD).

**2006/07 Town of Hilton Head Island, SC Beach Renourishment Project**

*(2002 - Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for project management, geotechnical sand search, project design, permitting, project bidding, construction oversight and contract management, and post-construction monitoring for 2.5M cubic yard beach renourishment project. Constructed in 2006/07. Construction Cost: \$17.0M (USD).

**Fish Haul/Spa Beach Restoration and Stabilization Project, Hilton Head Island, SC**

*(2002 - Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for project management geotechnical sand search, engineering, project design, permitting, local interest group liaison, bidding, construction oversight and contract management, post-construction monitoring 80,000 cubic yard beach restoration and six-rock breakwater project. Constructed in 2006. Construction Cost: \$1.5M (USD).

**Summary of Domestic Projects (partial listing cont'd)**

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**Port Everglades Entrance Sand Bypass Project, Broward County, FL**

*(2001-Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for project management, feasibility study, geotechnical investigation, sediment transport and project performance modeling, permitting, and design of planned bypassing infrastructure at Port Everglades Inlet, Broward County, Florida. Construction Planned for 2011-12. Estimated Construction Cost \$15.0M (USD).

**Broward County, Florida Federal Shore Protection Project – Segment III**

*(1998 - Present)*

Project Manager, Principal Investigator and Engineer-of-Record. Responsible for feasibility study, storm effects (SBEACH), nearshore wave (STWAVE) and shoreline change (GENESIS) predictions, development and preparation of Federal GRR, permitting, local interest group liaison, development of design plans and specifications, bidding, construction oversight and contract management, and post-project physical monitoring for 1.8 Mcy beach renourishment with three rock shore-stabilizing structures. Constructed in 2005/06. Construction Cost \$28.0M (USD).

**South Beach Emergency Beach Fill Project, Hilton Head Island, SC**

*(1998-1999)*

Principal Investigator and Project Engineer. Responsible for geotechnical sand search, permitting, formulation of design plans and specifications for 0.2M cubic yard emergency beach fill project. Responsible for management of aggressive project schedule and limited budget to complete the design, permitting and construction in less than 6 months. Constructed in January 1999. Construction Cost \$1.0M (USD).

**1997 Town of Hilton Head Island, SC Beach Renourishment and Tidal Channel Relocation Project**

*(1994-1998)*

Principal Investigator and Project Engineer. Responsible for geotechnical sand search, background scientific analyses, project design and permitting, project bidding, construction oversight and contract management, post-construction monitoring of 2.9M cubic yard beach nourishment and tidal channel relocation project. Constructed in 1999. Construction Cost \$9.5M (USD).

**Ocean Ridge, Florida Federal Shore Protection Project**

*(1993-1998)*

Project engineer. Responsible for development and preparation of Federal GDM, nearshore wave and alongshore sediment transport and shoreline change modeling, beach fill and coastal structure design, permitting, development of design plans and specifications, bidding, and construction oversight and contract management for 0.8M cubic yard beach restoration with a field of eight T-head groins. Constructed in January 1997-98. Construction Cost \$4.5M (USD).

**Pensacola Beach, FL Fishing Pier - Structure Wave Loading Analysis**

*(1998)*

Principal Investigator responsible for developing storm water-level and wave loading criteria for the design and construction of a 1,200 ft long recreational fishing pier in Pensacola Beach, FL. The completed pier has survived Hurricanes Ivan (2004), Katrina (2005), and Rita (2005).

**Summary of Non-Domestic Projects (partial listing)**

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**Beach Improvement Project, Puerto Vallarta, Mexico (Westin Resort & Spa)**

(2000-2002)

Project manager, principal investigator and engineer for site investigation, design, permitting assistance, and construction of beach improvements along 300 meters of shoreline at Westin Resort & Spa in Puerto Vallarta, Mexico. Project Cost: \$1.2M (USD).

**Post-Hurricane Wilma Damage Assessment and Seawall Reconstruction Project  
Cancun, Mexico (Westin Resort and Spa)**

(2005-2006)

Project manager, principal investigator and engineer for post-Hurricane Wilma (Category 4) site assessment, design, permitting assistance, and construction review of 300 meter concrete seawall that was destroyed during Hurricane Wilma, Westin Spa and Resort, Cancun, Mexico. Project Cost: \$0.8M (USD)

**Post-Hurricane Kenna Damage Assessment and Beach and Structure Repair Project  
Puerto Vallarta, Mexico (Westin Resort & Spa)**

(2002-2003)

Project manager, principal investigator and engineer for post-Hurricane Kenna (Category 5) site assessment, design, and construction review of post-hurricane reparations to shore-stabilizing structures and beach at Westin Resort & Spa in Puerto Vallarta, Mexico. Project Cost: \$0.95M (USD)

**Shoreline Restoration and Marina Improvements, Cat Cay, Bimini, Bahamas - (Private Owner).**

(1999-2001)

Project manager, principal investigator and engineer for site investigation, design, and construction oversight of shoreline restoration and marina improvements project on Cat Cay, Bimini, Bahamas. Shoreline improvements includes three shore stabilizing structures and beach nourishment from a remote sand sources. Marina improvements include a 250 seawall and mooring facilities for vessels up to 100 feet. Constructed in 2000. Project Cost: \$0.55M (USD)

**Beach Improvement Project, Ritz-Carlton Rose Hall, Montego Bay, Jamaica**

(1998-2000)

Project manager, principal investigator and engineer for site investigation, design, permitting assistance, and construction oversight for construction of three shore-stabilizing structures and beach nourishment along along 400 feet of shoreline at Ritz-Carlton Resort, Rose Hall, Montego bay, Jamaica. Constructed in 1999. Project Cost: \$0.6M (USD)

**Navigation, Marina, and Beach Improvement Project  
Bimini Sands Resort and Marina, South Bimini, Bahamas**

(1995-1999)

Project manager, principal investigator and engineer for site investigation, field tide and current data collection, hydraulic circulation model development and implementation, inlet jetty, mooring facility, navigation channel, shore-stabilizing structure, and beach fill design, permitting assistance, and formulation of design plans and specifications. Constructed by project owner from 1995 to 1999.

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## **Professional Certification and Activities**

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Registered Professional Engineer, Florida (49445), North Carolina (037119) and South Carolina (23064)  
American Society of Civil Engineers - Member  
Academy of Coastal, Ocean, Port and Navigation Engineers (ACOPNE) - Diplomate, Coastal Engineering  
Association of Coastal Engineers - Member / Board Member 2009-2011  
American Shore and Beach Preservation Association - Member  
Florida Shore and Beach Preservation Association - Member  
NAUI Open Water SCUBA Diver (since 1985); NITROX certified since 2003.

## **Publications (partial listing)**

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Creed, C.G. and Reilly, W.L. 2008. "Site specific calibration of the SBEACH model for a southeast Florida beach," *Proc., Beach Preservation Technology '08*, FSBPA, Sarasota, FL.

Creed, C.G., Bodge K.R., and Suter, C. 2000. "Construction slopes for beach nourishment projects," *Journal of Waterways, Ports, Coastal and Ocean Engineering*, American Society of Civil Engineers, New York, NY.

Creed, C.G. and Olsen, E.J. 1999. "Relocation of a tidal channel for shore stabilization and protection," *Proceedings of Coastal Sediments 99*, American Society of Civil Engineers, New York, NY.

Creed, C.G. 1998. "Pensacola Beach Fishing Pier: Site Analysis and Prediction of Wave-Induced Loading Distributions on Proposed Structure," engineering report prepared for Baskerville-Donovan, Inc., Olsen Associates, Inc., Jacksonville, FL.

Creed, C.G. and Olsen, E.J. 1998. "The Ocean Ridge Shore Protection Project," *Proc., Beach Preservation Technology '98*, FSBPA, Tampa, FL.

Bodge, K.R., Creed, C.G., and Raichle, A.W., 1996. "Improved wave data for shoreline change models," *Technical note: Journal of Waterways, Ports, Coastal and Ocean Engineering*, American Society of Civil Engineers, New York, NY.

Creed, C.G., 1996. "Modeling Inlet Sand Bypassing," *Proceedings of the 25<sup>th</sup> International Conference on Coastal Engineering*, American Society of Civil Engineers, Orlando, Florida.

Creed, C.G., Olsen, E.J., and Bodge, K.R., 1994. "Performance of an interim sand-tightening measure at an inlet jetty," *Proc., Beach Preservation Technology '94*, FSBPA, Tampa, FL.

Bodge, K. R., Olsen, E.J., and Creed C.G., 1993. "Performance of beach nourishment at Hilton Head Island, South Carolina," *Proc., Eighth Symposium on Coastal and Ocean Management (Coastal Zone '93)*; New Orleans, LA July 19-23, 1993.

Creed, C.G., Dalrymple, R.A, Kriebel, D.L., and Kaihatu, J.M. 1992. "Equilibrium beach profiles with random seas," *Proceedings of the 23<sup>rd</sup> International Conference on Coastal Engineering*, American Society of Civil Engineers, Venice, Italy.