

# **ALBERT E. BROWDER, Ph.D., P.E.**

## **Senior Engineer/Vice-President**

### **Education**

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*Doctor of Philosophy, 2000.* University of Florida; Gainesville, Florida  
Civil and Coastal Engineering (08/2000)  
Advisor: Robert G. Dean

*Master of Engineering, 1994.* University of Florida; Gainesville, Florida  
Coastal and Oceanographic Engineering (12/1994)  
Advisor: Robert G. Dean

*Bachelor of Science, 1992.* Clemson University; Clemson, South Carolina  
Mechanical Engineering (12/1992)  
Summa Cum Laude

### **Fields of Competence and Experience**

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Coastal/marine engineering, beach nourishment, post-disaster beach response and recovery, surf zone hydrodynamics, marine geotechnical investigation, nearshore coastal processes, physical and numerical wave modeling, numerical shoreline modeling, coastal structure design, marina design and permitting, inlet and open channel hydraulics, engineering economic analysis, hydrographic surveying and mapping methodologies

### **Professional Experience**

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*General* - Since joining Olsen Associates, Inc. in 1995, Dr. Browder's experience includes extensive beach nourishment and coastal structure design, post-storm damage assessments and subsequent shoreline restoration, marina design and permitting, numerical modeling of coastal littoral transport and ocean wave propagation, estuarine and hydraulic modeling, prediction of coastal shoreline change, storm damage modeling, development of shoreline protection alternatives, monitoring of coastal protection projects, and coastal permitting.

- Beach restoration
- Coastal structures
- Shoreline management
- Post-disaster beach response and recovery

*Specific* – Dr. Browder has been the engineer for numerous publicly-funded large-scale beach restoration projects in the Florida Panhandle and Alabama. As principal investigator and consultant to the Santa Rosa Island Authority, he designed and permitted the initial restoration of Pensacola Beach, FL in 2002-2003. Following the devastating 2004/2005 hurricane season in the Gulf of Mexico, he served as the engineer for the post-Hurricane Ivan beach renourishment project at Pensacola Beach.

## Albert E. Browder, Ph.D., P.E.

Dr. Browder designed and permitted the 15.3-mile 2005-2006 Orange Beach/Gulf State Park/Gulf Shores Beach Restoration Project in Baldwin County, AL, which was designated in 2006 as a Top Restored Beach by the American Shore and Beach Preservation Association.

As part of the restoration efforts in the Florida Panhandle and Alabama, Dr. Browder has assisted numerous local and County governments in obtaining Federal and State post-disaster funding assistance to rebuild the beaches in the area. Following the 2010 Deepwater Horizon oil spill in the Gulf of Mexico, Dr. Browder provided coastal engineering consulting services to these communities for oil spill response activities. In addition to public project work, Dr. Browder has completed numerous domestic and Caribbean private-sector shorefront projects.

At the University of Florida, Dr. Browder completed a wide range of numerical, laboratory, and field projects ranging from the development of inlet management practices to the creation of numerical models to investigate nearshore and wave hydrodynamics, including investigations of fine sediment dredge disposal and movement, migration of tidal inlets, and the behavior of submerged coastal breakwaters. Field and laboratory experience include the monitoring and evaluation of coastal structures and the study of nearshore hydrodynamics. Field experience includes over 100 hours of underwater equipment installation and data collection and an extensive amount of beach and hydrographic survey time.

Dr. Browder has authored several refereed papers in coastal processes in addition to refereeing papers for publication, and has presented numerous technical papers at professional conferences. Dr. Browder is an inaugural-class Diplomate of Coastal Engineering of the Academy of Coastal, Ocean, Port, and Navigation Engineers, and is a member of the American Society of Civil Engineers, the Florida Shore and Beach Preservation Association, the American Shore and Beach Preservation Association. He is a registered Professional Engineer in the States of Florida and Alabama.

### **Professional Certification and Activities**

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Registered Professional Engineer: Florida (#57403), Alabama (#26227)

Diplomate of Coastal Engineering – Academy of Coastal, Ocean, Port and Navigation Engineers

American Society of Civil Engineers – Associate Member

Florida Shore & Beach Preservation Association – Member

American Shore & Beach Preservation Association – Member

Association of Coastal Engineers - Member

Panel Member – FL DEP Beach Management Working Group – 2008-2009

Technical Reviewer:

ASCE Journal of Waterways, Port, Coastal, and Ocean Engineering, Coastal Engineering,  
Journal of Coastal Research,  
Gulf of Mexico Science

## Publications

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### Refereed:

- Browder, A.E., and Norton, D., (2005). “*The Impacts of Hurricane Ivan at Pensacola Beach, FL,*” Shore & Beach – Journal of the American Shore and Beach Preservation Association, Vol. 73, No. 2-3, pp 61-66, Ft. Myers, FL.
- Douglass, S.L., and Browder, A.E., (2005), “*Hurricane Ivan’s Impacts on the Alabama Coast*” Shore & Beach – Journal of the American Shore and Beach Preservation Association, Vol. 73, No. 2-3, pp 71-78, Ft. Myers, FL.
- Browder, A.E., and Dean, R.G., (2000) “*Monitoring and Comparison to Predictive Models of the Perdido Key Beach Nourishment Project, FL, USA,*” Coastal Engineering, 39, pp 173-191, Elsevier Science, B.V., Amsterdam, The Netherlands.
- Bodge, K.R., and Browder, A.E., (1997) “*Discussion: Simplified Dean’s Method for Beach-Fill Design,*” Journal of Waterway, Port, Coastal, and Ocean Engineering, V 122 (3), p. 301-302, American Society of Civil Engineers, New York, NY.
- Dean, R.G., Chen, R., and Browder, A.E. (1996) “*Full Scale Monitoring Study of a Submerged Breakwater, Palm Beach, FL, U.S.A.,*” Coastal Engineering, V 29, p. 291-315, Elsevier Science B.V., Amsterdam, The Netherlands.

### Conference Publications and Presentations:

- Browder, A.E. (2010), “*Gulf of Mexico Oil Spill Response – Escambia County, FL, and Baldwin County, AL,*” Presentation to the FSBPA Annual Conference, Clearwater Beach, FL, conference sponsor, FSBPA, Tallahassee, FL.
- Browder, A.E. (2009), “*Post-Storm Beach Restoration with FEMA: Florida Panhandle & Alabama,*” Presentation to the ASBPA National Conference, St. Pete Beach, FL, conference sponsor, ASBPA, Ft. Myers, FL.
- Browder A.E., and Reilly, W.L. (2008), “*Observations of Large-Scale Beach Cusps in the Florida Panhandle and Alabama,*” Proceedings of the 2008 National Conference on Beach Preservation Technology, Sarasota, FL, conference sponsor: FSBPA, Tallahassee, FL.
- Browder A.E. (2006), “*Rebuilding Pleasure Island, the 2005 Orange Beach / Gulf State Park / Gulf Shores Beach Restoration Project,*” Presentation to 2006 National Conference on Beach Preservation Technology, Sarasota, FL, conference sponsor: FSBPA, Tallahassee, FL.
- Browder, A.E., (2005). “*Hurricane Ivan: Storm Impacts to Beach Nourishment Projects – Gulf Shores, AL, to Pensacola Beach, FL,*” Proceedings of Solutions to Coastal Disasters ’05, Charleston, SC, 2005, American Society of Civil Engineers, Reston, VA.
- Browder A.E. (2005), “*Mechanisms for Hot-Spot Erosion: Natural and Not-so-Natural, NE Gulf of Mexico,*” Presentation to 2005 National Conference on Beach Preservation Technology, Destin, FL, conference sponsor: FSBPA, Tallahassee, FL.
- Browder, A.E., and Hobensack, W.A. (2003), “*Morphological Changes at Nassau Sound, Northeast Florida, U.S.A.*” Proceedings of the 2003 National Conference on Beach Preservation Technology, Ponte Vedra Beach, FL, conference sponsor: FSBPA, Tallahassee, FL.
- Browder, A.E. (2002), “*Sand Search and Beach Restoration at Pensacola Beach, FL,*” Proceedings of the 2002 National Conference on Beach Preservation Technology, Biloxi, MS, conference sponsor: FSBPA, Tallahassee, FL.
- Browder, A.E., and Dean, R.G., (1999) “*Coastal Impacts of the Pensacola Pass Entrance, FL, USA,*” Proceedings of Coastal Sediments 1999, Long Island, NY, American Society of Civil Engineers, New York, NY. Presented in Long Island, NY, in June, 1999.

- Browder, A.E., Dean, R.G., and Chen, R. (1996) “*Performance of a Submerged Breakwater for Shore Protection*,” Proceedings of the 25<sup>th</sup> International Conference on Coastal Engineering, American Society of Civil Engineers, New York, NY. Presented in Orlando, FL, September, 1996.
- Browder, A.E. (1995) “*Wave Transmission and Current Patterns Associated with Narrow Crested Submerged Breakwaters*,” Proceedings of the 1995 National Conference on Beach Preservation Technology, FSBPA, Tallahassee, FL.

**Selected Technical Project Reports:**

- Browder, A.E., and Reilly, W.L., (2006), “*Perdido Key, FL, Feasibility Study for Beach Restoration*,” Report submitted to Escambia County, FL, and the Florida Department of Environmental Protection Bureau of Beaches and Coastal Systems, 196 pp.
- Olsen Associates, Inc., (2006b), “*Pensacola Beach, FL, Post-Hurricane Ivan Beach Renourishment – Post-Construction Report*” Report submitted to Santa Rosa Island Authority and the Florida Department of Environmental Protection Bureau of Beaches and Coastal Systems, 128 pp.
- Olsen Associates, Inc., (2006c), “*Orange Beach/Gulf State Park/Gulf Shores Beach Restoration Project – Post-Construction Report*,” Report submitted to Cities of Orange Beach and Gulf Shores, AL, and the AL Department of Conservation and Natural Resources, 166 pp.
- Olsen Associates, Inc., (2003a), “*Coastal Engineering Analyses for Beach Restoration, Orange Beach/Gulf State Park/Gulf Shores Beach Restoration Project*,” Report submitted to Cities of Orange Beach and Gulf Shores, AL, and the AL Department of Conservation and Natural Resources, 178 pp.
- Olsen Associates, Inc., (2003b), “*Pensacola Beach, FL, Beach Restoration Project – Post-Construction Report*” Report submitted to the Santa Rosa Island Authority and the Florida Department of Environmental Protection Bureau of Beaches and Coastal Systems, 143 pp.
- Browder, A.E., and Olsen, E.J., (2001a), “*Pensacola Beach, FL, Feasibility Study for Beach Restoration*,” Report submitted to the Santa Rosa Island Authority and the Florida Department of Environmental Protection Office of Beaches and Coastal Systems, 218 pp.
- Browder, A.E., and Olsen, E.J., (2001b), “*Pensacola Beach, FL, Feasibility Study for Beach Restoration – Sand Search Investigation*,” Report submitted to the Santa Rosa Island Authority and the Florida Department of Environmental Protection Office of Beaches and Coastal Systems.
- Olsen Associates, Inc, (2000), “*South Amelia Island Shoreline Stabilization Study, Amelia Island, FL*,” Report submitted to the Nassau County, FL, Board of County Commissioners, 213 pp.
- Browder, A.E. (2000), “*Numerical Simulation of Mean Cross-Shore Currents: A Stream Function Approach*,” Doctoral Dissertation, University of Florida, Gainesville, FL. UF Civil and Coastal Engineering Coastal Engineering Archives TR-127.
- Browder, A.E., and Dean, R.G., (1999) “*Pensacola Pass, FL, Inlet Management Study*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-99/002.
- Browder, A.E., and Dean, R.G., (1998) “*Preliminary Investigation of the Characteristics of Coastal Lake Outlets in the Florida Panhandle*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-98/010.
- Browder, A.E., and Dean, R.G., (1997) “*1997 Performance Monitoring Report of the Perdido Key Beach Nourishment Project, Gulf Islands National Seashore*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-97/014.

- Browder, A.E. (1997) “*Comparison of Laser Swath Survey Data to Conventional Ground Truth Beach Profiles*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-97/012.
- Browder, A.E. (1996) “*Wave Refraction/Littoral Transport Modeling & Input Wave Data Preparation for GENESIS Modeling of the St. Lucie Inlet, FL*,” Olsen Associates, Inc., Jacksonville, FL, technical report submitted to Gulf Engineers and Consultants, Inc., and U.S. Army Corps of Engineers.
- Olsen Associates, Inc. (1996) “*Littoral Transport Analysis of the Atlantic Ocean Shoreline of Hilton Head Island, SC*,” Report submitted to the Town of Hilton Head Island, SC.
- Browder, A.E. (1996) “*Bonita Beach Restoration Project: One-Year Post Construction Monitoring Report*,” Olsen Associates, Inc., Jacksonville, FL, technical report submitted to Lee County, FL, Board of County Commissioners and the Florida Department of Environmental Protection.
- Olsen Associates, Inc. (1995), “*Sailfish Point Shoreline Stabilization Project, Analysis and Conceptual Design*,” Report submitted to the Sailfish Point Property Owners and Country Club Association, Inc., Martin County, FL.
- Thieke, R.J., Chen, R., and Browder, A.E. (1995) “*Field Investigation of Inlet Stability at Little Lagoon, Gulf Shores, AL*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-95/005.
- Browder, A.E., Dombrowski, M.R., Dean, R.G., and Chen, R., (1994) “*Performance of the Midtown Palm Beach P.E.P. Reef Installation: First Twelve Months Results*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-94/017.
- Dean, R.G., Browder, A.E., Goodrich, M.S., and Donaldson, D.G., (1994) “*Model Tests of the Proposed PEP Reef Installation at Vero Beach, FL*,” University of Florida Coastal & Oceanographic Engineering Department Report, UFL/COEL-94/012.