

# Exhibit 5.1

## UNIVERSITY OF MIAMI Curriculum Vitae

1. **Date:** February 2010

### PERSONAL

2. **Name:** Harold R. Wanless

3. **Home (cell) Phone:** (305) 798-6735

4. **Office Phone:** (305) 284-4253 or 284-2697, FAX 284-4258  
E-mail: hwanless@miami.edu  
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5. **Home Address:** 1231 Genoa St. Coral Gables, FL 33134

6. **Academic Rank:** Professor

7. **Primary Department:** Department of Geological Sciences, School of Arts and Sciences, University of Miami, P.O. Box 249176, Coral Gables, Florida 33124

**Secondary Department:** Division of Marine Geology and Geophysics, Rosenstiel School of Marine and Atmospheric Sciences, University of Miami

8. **Citizenship:** U.S.

9. **Date of Birth:** 14 February 1942

### HIGHER EDUCATION

10. **Institutional:**  
Johns Hopkins University; Ph.D. 1973 (Dr. L.A. Hardie, Dissertation Advisor)

University of Miami; M.S. 1968 (Dr. A. Conrad Neumann, Thesis Advisor)

Princeton University; A.B. 1964 (Dr. A.G. Fischer, Thesis Advisor)

11. **Non Institutional:** NONE

12. **Certification:** Registered Professional Geologist, State of Florida, #985, 1989 to present.

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## EXPERIENCE

13. **Academic:**  
Geological Assistant; Scripps Institution (for Dr. Francis P. Shepard); 1962-63  
  
Geological Assistant; University of Illinois (for Dr. Harold R. Wanless); 1964  
  
Research Assistant; University of Miami (for Dr. A. Conrad Neumann); 1965-67  
  
Graduate Fellow; Johns Hopkins University; 1967-71  
  
Research Scientist; University of Miami; 1971-73  
  
Assistant Professor; University of Miami; 1973-81  
  
Associate Professor; University of Miami; 1981-1993  
  
Professor, University of Miami; 1993-present  
  
Chairman, Department of Geological Sciences, University of Miami 1998-present  
  
Elected Interim Director, Institute for Interdisciplinary Tropical Science, University of Miami, 2003-2004  
  
Cooper Fellow of the College of Arts and Sciences, University of Miami, 2010-2013.
14. **Non-Academic Employment:** Private consultant: petroleum, coastal and environmental, forensic and educational.
15. **Military:** NONE

## PUBLICATIONS

16. **Books and Monographs Published:**  
Wanless, H.R., Tedesco, L.P., Rossinsky, V., Jr., and Dravis, J.J., 1989. Carbonate Environments and Sequences of Caicos Platform with an Introductory Evaluation of South Florida. Am. Geophysical Union, 28th Internatl. Geol. Congress Field Trip Guidebook T374, American Geophysical Union, Washington D.C., 75 p.  
  
Wanless, H.R., Tedesco, L.P., Risi, J.A., Bischof, B.G., Gelsanliter, S., 1995, The Role of Storm Processes on the Growth and Evolution of Coastal and Shallow Marine Sedimentary Environments in South Florida, 1st SEPM Congress on Sedimentary Geology, Field Trip Guidebook, 179 p.

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### 17. **Juried or Refereed Journal Articles and Exhibitions:**

- 1970 (with R.N. Ginsburg, O.P. Bricker and P. Garrett). Exposure index and sedimentary structures of a Bahama tidal flat. Discussion paper, Geol. Soc. America Abstract with Program. 2(7):744-745.
- 1972 (with E. Bonatti and O. Joensuu) Geological observations in the submarine caldera of Santorin (Aegean Sea). Rapp. Comm. Int. Mer. Medit. 20(4): 569-570.
- 1974 "Mangrove sedimentation in geologic perspective." In Environments of South Florida: Present and Past. P. 190-200. Edited by P. Gleason. Miami: Miami Geological Society.
- 1975 "Carbonate tidal flats of the Grand Canyon Cambrian." In Tidal Deposits: A Casebook of Recent Examples and Fossil Counterparts. P. 269-277. Edited by R.N. Ginsburg. New York: Springer-Verlag.
- "Intracoastal sedimentation." In New Concepts of Continental Margin Sedimentation. P. 221-239. Edited by D.J. Stanley. New York: Wiley Interscience.
- 1976 Geologic setting and recent sediments of the Biscayne Bay region, Florida. In Biscayne Bay: Past, Present and Future. P. 1-32. Edited by A. Thorhaug and A. Volker. University of Miami, Sea Grant Special Report, No. 5, 315p.
- Man's impact on sedimentary environments and processes. In Biscayne Bay: Past, Present and Future. P. 287-300. Edited by A. Thorhaug and A. Volker. University of Miami, Sea Grant Special Report, No. 5, 315p.
- (with H.J. Teas and R.E. Chardon) Effects of man on shore vegetation of Biscayne Bay. In Biscayne Bay: Past, Present and Future. P. 133-156. Edited by A. Thorhaug and A. Volker. University of Miami, Sea Grant Special Report, No. 5, 315p.
- 1979 Limestone response to stress: solution and dolomitization. Jour. Sed. Petrology 49(2): 437-462.
- 1981 Wanless, H.R., E.A. Burton and J.J. Dravis. Hydrodynamics of carbonate fecal pellets. Jour. Sed. Petrology 51(1): 27-36.
- Fining upwards sedimentary sequences generated in seagrass beds. Jour. Sed. Petrology 51(2): 445-454.
- Limestone response to stress: solution and dolomitization. In Diagenesis of Carbonate Rocks: Cement-Porosity Relationships. No. 10, p. 251-276. Edited by G.M. Friedman. and S.A. Ali. Soc. Econ. Paleontologists Mineralogists Reprint Series.

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- 1982 Limestone response to stress: pressure solution and dolomitization-reply. *Jour. Sed. Petrology* 52(1): 328-332.
- Burial diagenesis in limestones. In Sediment Diagenesis. Edited by A. Parker and B.W. Sellwood. Proceedings of NATO Advanced Study Institute, John Wiley and Sons.
- Sea level is rising - so what? *Jour. Sed. Petrology* 52(4): 1051-1054.
- 1984 Styles of pressure dissolution, In Stylolites and Associated Phenomena: Relevance to Hydrocarbon Reservoirs. P. 81-105. Abu Dhabi National Reservoir Research Foundation Special Publication, Abu Dhabi, U.A.E., 304p.
- Wanless, H.R., Rossinsky, V., Jr., and McPherson, B.F. Sedimentologic History of the Loxahatchee River Estuary, Florida, U.S.G.S. - Water Resource Investigations Report 84-4120, 58p.
- Pilkey, O.N., Sharma, D.G., Wanless, H.R., and others. Living with the East Florida Shore, Duke University Press, Durham, N.C., 200p.
- 1988 Wanless, H.R., L.P. Tedesco and K.M. Tyrrell. Production of subtidal tubular and surficial tempestites by Hurricane Kate, Caicos Platform, British West Indies. *Jour. Sed. Petrology*. 58(4): 739-750.
- Wanless, H.R., K.M. Tyrrell, L.P. Tedesco and J.J. Dravis. Tidal-flat sedimentation from Hurricane Kate, Caicos Platform, British West Indies, *Jour. Sed. Petrology*, 58(4): 724-738.
- 1989 Wanless, H.R. and M.G. Tagett. Origin and dynamic evolution of carbonate mudbanks in Florida Bay. *Bull. Mar. Sci.*, Symposium on Florida Bay, 44(1): 454-489.
- Tedesco, L.P. and Wanless, H.R., Role of burrow excavation and infilling in creating the preserved depositional fabric of Pennsylvanian phylloid mounds of southeastern Kansas: in Sequence Stratigraphic Interpretations and Modeling of Cyclothems, W.L. Watney, J.A. French and E.K. Franseen (eds.), Kansas Geological Society 41st Annual Field Trip, p. 179-192.
- Wanless, H.R., and Parkinson, R.W., 1989. Late Holocene sealevel history of southern Florida: control on coastal stability. In Tanner W.F. (ed.), Coastal sediment mobility. Proc., Eighth symposium on Coastal Sedimentology, Fla. State Univ., Tallahassee, Fl, p. 197-213.
- 1991 Dominguez, J.M.L., and Wanless, H.R. Facies architecture of a falling sea-level strandplain, Doce River coast, Brazil, in: D.J.P. Swift and G.F. Oertel (Eds.), International Association of Sedimentologists, Spec. Publ. #14, p. 259-289.

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- Rossinsky, V., Jr., and Wanless, H.R. Topographic and vegetative controls on calcrete formation, Turks and Caicos Islands, British West Indies. *Jour. Sedimentary Petrology*, v. 62, p. 84-98.
- Tedesco, L.P., and Wanless, H.R. Generation of sedimentary fabrics and facies by repetitive excavation and storm infilling of burrow networks: Palaios (Ichnofabric Theme Issue) v. 6, p. 326-343.
- Wanless, H.R. Observational foundation for sequence modeling. E.K. Franceen, W.L. Watney, C.G.St.C. Kendall, and W. Ross (eds.) *Sedimentary Modeling: Computer simulations and methods for improved parameter definition*, Kansas Geological Survey Bull. 233, p. 42-62.
- 1992 Rossinsky, V. Jr., and Wanless, H.R. Topographic and vegetative controls on calcrete formation, Turks and Caicos Islands, British West Indies. *Jour. Sedimentary Petrology*, v. 62, p. 84-98.
- Rossinsky, V. Jr., Wanless, H.R. and Swart, P.K. Penetrative calcretes and their stratigraphic implications. *Geology*, v. 20, p. 331-334.
- 1993 Wanless, H.R., and Tedesco, L.P. Comparison of oolitic sand bodies generated by tidal versus wind-wave agitation, *in* B.D. Keith and C.W. Zuppang (Eds.) *Mississippian oolites and modern analogs*, American Association of Petroleum Geologists Studies in Geology #35, Amer. Assoc. Petroleum Geologists, Tulsa, OK, p. 199-225.
- Wanless, H.R., and Tedesco, L.P. Depositional and early diagenetic controls on texture and fabric of carbonate mudbanks, south Florida, *in* R. Rezak and D.L. Lavoie (Eds.) *Carbonate Microfabrics*, *Frontiers in Sedimentary Geology*. Springer-Verlag, NY, p. 41-63.
- Rossinsky, V. Jr., Wanless, H.R. and Swart, P.K. Penetrative calcretes and their stratigraphic implications, Reply #1. *Geology*, vol 21, no. 2, p. 186-187.
- Rossinsky, V. Jr., Wanless, H.R. and Swart, P.K. Penetrative calcretes and their stratigraphic implications, Reply #2. *Geology*, vol. 21 no. 6, p. 573-574.
- 1994 Smith III, T.J., Robblee, M.B., Wanless, H.R., and Doyle, T.W. Mangroves, hurricanes, and lightning strikes. *Bioscience*, vol. 44, p. 256-262.
- Tilmont, J.T., Curry, R., Jones, R., Szmant, A., Zieman, J.C., Flora, M., Robblee, M.B., Smith, D., Snow, R.W., and Wanless, H.R. Hurricane Andrew's effect on marine resources. *Bioscience*, vol. 44, no. 4, p. 230-237.
- Wanless, H.R., Parkinson, R., and Tedesco, L.P. Sea level control on stability of Everglades

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- wetlands, *in* Proceedings of Everglades Modeling Symposium. St. Lucie Press, FL, p. 199-223.
- 1995 Risi, J.A., Wanless, H.R., Tedesco, L.P., and Gelsanliter, Catastrophic sedimentation from Hurricane Andrew along the southwest Florida coast. *J. Coastal Res.*, v. 21, p. 82-102.
- Tedesco, L.P., and Wanless, H.R. Growth and borrow-transformation of carbonate banks: comparison of modern skeletal banks of south Florida and Pennsylvanian phylloid banks of south-eastern Kansas, USA. *Spec. Publs. Int. Assoc. Sedimentologists*, No. 23, p. 495-521.
- 1995 Tedesco, L.P. Wanless, H.R., Scusa, L.A., Risi, J.A., and Gelsanliter, S. Impact of Hurricane Andrew on south Florida's sandy coastlines. *J. Coastal Res.* v. 21, p. 59-82.
- 1995 Wanless, H.R., Tedesco, L.P., Cottrell, DJ., Tagett, M.G., and Warzeski, E.R. Origin and growth of carbonate mud banks in south Florida. *Spec. Publs. Int. Assoc. Sedimentologists*, No. 23, p. 439-473.
- Wanless, H.R., Tedesco, L.P., Risi, J.A., Bischof, B.G., and Gelsanliter, S., 1995. The Role of Storm Processes on the Growth and Evolution of Coastal and Shallow Marine Sedimentary Environments in South Florida, Field Trip Guide, The 1<sup>st</sup> SEPM Congress on Sedimentary Geology, St. Petersburg, FL, 179p.
- 2000 Kang, Woo-Jun, Trefry, J.H., Nelsen, T.A., and Wanless, H. Direct atmospheric inputs versus runoff fluxes of Hg to the Lower Everglades and Florida Bay. *Environmental Science and Technology* (16 msp., 2 tables, 4 figs.).
- 2001 Browder, J.A., and Wanless, H.R. Biscayne Bay Partnership Initiative Science Team Co-Chair's report, *in: Biscayne Bay Partnership Initiative Survey Team Final Reports*, Biscayne Bay Partnership Initiative, Ft. Lauderdale, FL, p. 75-108.
- Wanless, H.R. Geology, Sedimentology, Climate and Sea Level, *in: Biscayne Bay Partnership Initiative Survey Team Final Reports*, Biscayne Bay Partnership Initiative, Ft. Lauderdale, FL, p. 109-133.
- Thorhaug, A., Browder, J., Wanless, H.R., and others. Habitat and Species of Concern, *in: Biscayne Bay Partnership Initiative Survey Team Final Reports*, Biscayne Bay Partnership Initiative, Ft. Lauderdale, FL, p. 175-217.
- 2002 Nelsen, T.A., Wanless, H.R., Trefry, J.H., Alvarez-Zarikian, C., Hood, T., Blackwelder, P., Swart, P., Tedesco, L.P., Kang, W-J., Metz, S., Garte, G., Feathersonte, C., Souch, C., Pachut, J.F., O'Neal, M., and Ellis, G. Linkages between the south Florida peninsula and coastal zone: a sediment-based history of natural and anthropogenic influences., *in* (Porter, J.W. and Porter, K.G., eds.) *The Everglades, Florida Bay, and Coral Reefs of the*

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*Florida Keys: An Ecosystem Sourcebook*, CRC Press, Boca Raton, p. 415-449.

- 2004 Wanless, H.R. Keep it clean and do the research. *Groundwater*, April 2004; and reply to discussion in *Groundwater*, October 2004.
- 2005 Davis, S.M., Childers, D.L., Lorenz, J.J., Wanless, H.R., and Hopkins, T.E., A conceptual model of ecological interactions in the mangrove estuaries of the Florida Everglades, *Wetlands*, 25 (4)27: 832-842.
- 2007 Wanless, H.R., and Maier, K.L., Evaluation of beach nourishment sands adjacent to reefal settings, southeast Florida, *Southeastern Geology*, V. 45, No. 1, p. 25-42.
- 2008: Dravis, J.J., and Wanless, H.R., Caicos platform models of Quaternary carbonate deposition controlled by stronger easterly Trade Winds – applications to petroleum exploration. In Morgan, W., and Harris, P. (eds.), *Developing Models and Analogs for Isolated Carbonate Platform – Holocene and Pleistocene Carbonates of Caicos Platform, British West Indies, SEPM Core Workshop 22*, Society of Sedimentary Geology, 10 ms pages and 4 figures.
- 2008 Van Ee, N., and Wanless, H.R., Ooids and Grapestone- A Significant Source of Mud on Caicos Platform. In Morgan, W., and Harris, P. (eds.), *Developing Models and Analogs for Isolated Carbonate Platform – Holocene and Pleistocene Carbonates of Caicos Platform, British West Indies, SEPM Core Workshop 22*, Society of Sedimentary Geology, 13 ms pages and 1 figure.
- 2008 Wanless, H.R., and Dravis, J.J., Pleistocene Reefal and Oolitic Core Sequences from West Caicos, Caicos Platform, In Morgan, W., and Harris, P. (eds.), *Developing Models and Analogs for Isolated Carbonate Platform – Holocene and Pleistocene Carbonates of Caicos Platform, British West Indies, SEPM Core Workshop 22*, Society of Sedimentary Geology, p. 171-177.
- 2009 Wanless, H.R., and Dravis, J.J. Role of Storms and Prevailing Energy in Defining Sediment Body Geometry, Composition, and Texture on Caicos Platform, In Morgan, W., and Harris, P. (eds.), *Developing Models and Analogs for Isolated Carbonate Platform – Holocene and Pleistocene Carbonates of Caicos Platform, British West Indies, SEPM Core Workshop 22*, Society of Sedimentary Geology, p. 13-20.
- 2009 Vlaswinkel, B.M., and Wanless, H.R. Rapid recycling of organic-rich carbonates during transgression: a complex coastal system in southwest Florida. In Swart, P., Eberli, G., and McKenzie, J., (eds.) *Perspectives in Sedimentary Geology: A tribute to the Career of R.N. Ginsburg*, International Association of Sedimentologists Special Publication, Wiley-Blackwell, p. 91-112.

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- 2009 Wanless, H.R. A History of Poor Economic and Environmental Renourishment Decisions in Broward County, Florida., *in* Kelley, J.T., Pilkey, O.H., and Cooper, J.A.G., eds., *America's Most Vulnerable Communities: Geological Society of America Special Paper 460*, p. 111-119. Doi:10.1130/2009.2460 (07).
- 2009 Wanless, H.R. Layering – what does it mean? *In* Swart, P., Eberli, G., and McKenzie, J., (eds.) *Perspectives in Sedimentary Geology: A tribute to the Career of R.N. Ginsburg*, International Association of Sedimentologists Special Publication, Wiley-Blackwell, p. 297-304.
18. **Other Works and Publications:**
- 1969 Sediments of Biscayne Bay - distribution and depositional history. Technical report 69-2, Inst. Marine Sciences, University of Miami, Miami, Florida, 260pp.
- Sedimentary structure and zonation on tidal levees, Andros Island, Bahamas. *Amer. Assoc. Petrol. Geol. Bull.* 53(3): 748.
- 1970 Influence of pre-existing bedrock topography on bars of lime mud and sand. Biscayne Bay, Florida. *Amer. Assoc. Petrol. Geol. Bull.* 54(5): 875.
- 1971 Carbonate tidal flats of the Grand Canyon Cambrian. *Geol. Soc. America Abstract with Program.* 3(7): 743.
- 1973 Preliminary report on the sediments and sedimentary processes in natural and artificial waterways, Marco Island, Florida. Report 22 to Deltona Corp., December. 15 pp. and 6 figures.
- Cambrian of the Grand Canyon - a re-evaluation. *Amer. Assoc. Petrol. Geol. Bull.* 57(4): 810-811.
- Microstylolites, bedding, and dolomitization. *Amer. Assoc. Petrol. Geol. Bull.* 57(4): 811.
- 1974 Fining-upwards sequences generated by seagrass beds. *Geol. Soc. America Abstract with Program.* 6(7): 999.
- "Intracoastal sedimentation." *In* The New Concepts of Continental Margin Sedimentation II. P. 391-429. Edited by D.J. Stanley. Falls Church, Va.: Amer. Geol. Inst.
- Concepts in carbonate sedimentation: A problem oriented field excursion on the origin of carbonate sand and mudbanks - Biscayne Bay, Florida. *Amer. Geol. Inst. Mimeo.* 15 pp.
- Sediments and sedimentary processes in natural and artificial waterways, Marco Island area, Florida. Scientific report UM-RSMAS, No. 74032, Univ. Miami, Miami, Florida. 127 pp.



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- 1975 (with J. Dravis) "Characterization of carbonate sand fraction from MAFLA Areas I, II, and III." In Final Report on the Baseline Environmental Survey of the MAFLA Lease Areas CY 1974. St. Petersburg: State University System of Florida, Inst. Ocy. BLM Contract No. 08550-CT4-11. 191 pp.
- (with E. Barron and J. Rine) Sediments and sedimentation in inland waterways, Marco Island, Florida. Progress report to Deltona Corp. 48 pp.
- Sedimentary dynamics and significance of seagrass beds. *Florida Scientist* 38(Suppl.1): 20.
- 1976 (with J.M. Rine) Timing, character and preservability of sedimentation events in low-energy coastal environments, southwest Florida, *Amer. Assoc. Petrol. Geol. Bull.* 60(4): 731.
- Carbonate Sediment Constituents and Molluscan Lithotopes on the MAFLA Continental Shelf. Final Report to the Bureau of Land Management. 280 p.
- Sedimentary dynamics and significance of seagrass beds. *Geol. Soc. America Abstracts with Programs* 8(6): 1160.
- 1978 Limestone Response to Stress: Neomorphism, Solution and Dolomitization. P. 6 of abstracts. 6th Meeting of Carbonate Sedimentologists, Liverpool, England, Jan. 3-7, 1978.
- Storm generated stratigraphy of carbonate mud banks, South Florida. *Geol. Soc. America Abstracts with Programs* 10(7): 512.
- 1979 Role of physical sedimentation in carbonate bank growth. *Amer. Assoc. Petrol. Geol. Bull.* 63(3): 547.
- 1981 Environments and dynamics of clastic sediment dispersal across the Cambrian of the Grand Canyon. *Amer. Assoc. Petrol. Geol. - Soc. Econ. Paleontologists Mineralogists Ann. Mtg.*, San Francisco.
- 1982 Diagenetic fabric and structures in Ordovician slope limestones. *Amer. Assoc. Petrol. Geol. Bull.* 66(5): 640.
- 1983 Turbidity in Biscayne Bay. Annual Report to Dade County and Sea Grant, 226 p.
- 1984 (with J. Dravis) Comparison of two Holocene Tidal Flats - Andros Island, Bahamas, and Caicos, British West Indies. *Am. Assoc. Petrol. Geol. Bull.* 68(4): 537.
- (with D. Cottrell, R. Parkinson and E. Burton) Sources and Circulation of Turbidity, Biscayne Bay, Florida. Final report to Sea Grant and Dade County, 499 p.

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- 1985 (with J. Dravis and G.S. Grabowski, Jr.) Exposed Pleistocene platform margin reef sequence, West Caicos Island, British West Indies. Soc. Econ. Paleontologists Mineralogists Ann. Midyear Mtg., Abstracts, 2: 25-26.
- 1986 Transgressive and regressive stromatolites. Stromatolite symposium. Abstracts Soc. Econ. Paleontologists Mineralogists Ann. Midyear Mtg., Raleigh, 3: 114.
- (with V. Rossinsky) Coastal accretion on leeward margins of carbonate platforms, Turks and Caicos Islands, British West Indies. Amer. Assoc. Petrol. Geol. Bull. 70: 660.
- (with M. Tagett) Burrow-generated false facies and phantom sequences. Amer. Assoc. Petrol. Geol. Bull. 70: 660.
- Tagett, M.G. and H.R. Wanless. Gradients in carbonate mudbank stratigraphy and dynamics: Florida Bay, South Florida. Abstracts Soc. Econ. Paleontologists Mineralogists Ann. Midyear Mtg., Raleigh, 3: 108.
- Tedesco, L.P., H.R. Wanless and K.M. Tyrrell. Tabular and tubular tempestites from Hurricane Kate, Caicos Platform, British West Indies. Abstracts Soc. Econ. Paleontologists Mineralogists Ann. Midyear Mtg., Raleigh, 3: 108.
- 1987 Wanless, H.R., K.M. Tyrrell, and L.P. Tedesco. Hurricane-dominated tidal flats, Caicos Platform, British West Indies. Amer. Assoc. Petrol. Geol. Bull. 71: 200.
- Waltz, M., V. Rossinsky, and H.R. Wanless. Repetitive reef to ooid sequences near the leeward margin of Caicos Platform, British West Indies, Am. Assoc. Petrol. Geologists Bull., 71: 200.
- Wanless, H.R. Key Biscayne's "mangrove reef", a reflection of barrier island and sea level history. in Maurrasse, F.J-M.R. (Ed.), Symposium on south Florida geology. Miami Geological Society Mem. 3, p. 16.
- Wanless, H.R., and Tagett, M.G. Origin and dynamic evolution of carbonate mudbanks in Florida Bay, Florida Bay Symposium, Univ. Miami/Everglades National Park, June 1987.
- Wanless, H.R., and Tedesco, L.P. Burrow-generated sedimentary sequences: An example from the Glen Rose Formation, Lower Cretaceous, Austin, Texas: Soc. Econ. Paleontologists Mineralogists Midyear Mtg., Austin, IV: 88-89.
- 1988 Rossinsky, V. Jr., and H.R. Wanless. Penetrative Calcretes: Origin and stratigraphic pitfalls: Geol. Soc. America, Ann. Mtg., Denver, Abstracts with Programs 20(7): 329.

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- Tedesco, L.P. and Wanless, H.R. Paleoenvironmental reconstruction of Paleozoic mud mounds: A reinterpretation based on modern burrow infill fabrics: Geol. Soc. America, Ann. Mtg., Denver, Abstracts with Programs, 20(7): A211.
- Wanless, H.R. and Tedesco, L.P., Sand Biographies: Sea Frontiers, 34, p. 224-231.
- 1989 Tedesco, L.P. and Wanless, H.R., Biogenic generation, transformation and destruction of sedimentary facies: 28th International Geological Congress, Washington, D.C., Abstracts, v. 3, p. 224-225.
- Wanless, H.R., Tedesco, L.P., Dravis, J.J., and Emerson, J.D., Alternate models of Bahamian platform carbonate sedimentation: Caicos Platform, British West Indies: 28th International Geological Congress, Washington, D.C., Abstracts, v. 3, p. 331-332.
- Wanless, H.R., Tedesco, L.P., and Dravis, J.J., An expanded model for ooid form and genesis: Caicos Platform, British West Indies: Am. Assoc. Petrol. Geol. Bull., v. 73, p. 1041.
- Wanless, H.R., Observational Foundation for and Scaling Limitation to Sequence Modeling, in Sedimentary Modeling: Computer Simulation of Depositional Sequences; Franceen, E.D. and Watney, W.L. (eds.) Kansas Geological Survey Subsurface Geology Series 12, p. 7.
- Wanless, H.R. and Parkinson, R., Late Holocene Sea Level History of south Florida: Control on coastal stability: Geol. Soc. America, Ann. Mtg. Abstracts, St. Louis, p. A35.
- Tedesco, L.P. and Wanless, H.R., The depositional sequences of phylloid mounds: a reappraisal: Geol. Soc. America Ann. Mtg., Abstracts, St. Louis, p. A292.
- Browne, K.M., Wanless, H.R., Swart, P., Rossinsky, V., and Tyrrell, K.M., Dolomite cementation and sediment dissolution in association with ponded brines, Caicos, B.W.I.: Geol. Soc. America Ann. Mtg., Abstracts, St. Louis, p. A220.
- 1990 Tedesco, L.P. and Wanless, H.R. Role of burrow excavation and infilling in creating the preserved depositional fabric of the core facies of modern and Paleozoic mud mounds: 13th International Sedimentological Congress, Abstracts of Posters, Nottingham, England, p. 214.
- Tedesco, L.P. and Wanless, H.R. Biogenic generation, transformation and destruction of sedimentary facies by excavation and catastrophic infilling of burrow networks: 13th International Sedimentological Congress, Abstracts for Papers, Nottingham, England, p. 546.
- Wanless, H.R. Late Holocene sealevel history of south Florida: control on coastal Stability. Navigating the Nineties, Florida Coastal, Management Conference, Clearwater, FL, Sept, 1990.

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- Wanless, H.R., Cottrell, D.J., Tagett, M.G., Tedesco, L.P., and Warzeski, E.R. Origin and growth of carbonate mud banks in south Florida: a reevaluation: 13th International Sedimentological Congress, Abstracts for Papers, Nottingham, England, p. 588.
- Wanless, H.R., and Tedesco, L.P. Comparative facies analysis of oolitic sand bodies generated by tide versus wind agitation, Geol Soc. America Ann Mtg. Abstracts, Dallas, TX, p. A131-132.
- Wanless, H.R. and Tedesco, L.P. Ooids: an expanded model for petrologic form, genesis and sediment body geometry: 13th International Sedimentological Congress, Nottingham, England, p. 587-588.
- 1991 Tedesco, L.P., Aller, R.C., and Wanless, H.R., 210-Bp chronology of sequences affected by burrow excavation and infilling: examples from shallow marine carbonate sediment sequences, Holocene south Florida and Caicos Platform, BWI. Geol Soc. America, Ann. Natl. Meeting, San Diego, 1991.
- Tedesco, L.P., and Wanless, H.R. Fabric selective dolomitization and porosity enhancement in fine-grained shelf and bank facies. International Symposium on the Exploration and Development of Low Permeability Oil and Gas Reservoirs, Abstracts; Xian, China, 2 p.
- Wanless, H.R. Porosity and permeability destruction and enhancement in limestones during burial and tectonic stresses. International Symposium on the Exploration and Development of Low Permeability Oil and Gas Reservoirs, Abstracts; Xian, China, 2 p.
- Wanless, H.R., and Tedesco, L.P., A re-evaluation of Mississippian mud mounds based on their internal stratigraphy. Geol Soc. America, Ann. Natl. Meeting, San Diego, 1991.
- 1992 Frederick, B.C., Gelsanliter, S., Risi, J.A., and Wanless, H.R. Historical evolution of the southwest Florida coastline and its effect on the adjacent marine environments. 1992 Symposium on Florida Keys Regional Ecosystem, Abstracts. Univ. Miami and NOAA, p. 11.
- Tedesco, L.P., and Wanless, H.R. Variability of ooid grain form and internal microstructure: a response to energy level of the formational environment. Geological Society of America, 1992 Annual Meeting, Abstracts with Programs, Cincinnati, p. A350-A351.
- Wanless, H.R. Progress Report 1. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 3p. Plus 3 Appendices, to Everglades National Park.
- Wanless, H.R., and Tedesco, L.P., Paleoenvironmental setting of Paleozoic mud mounds.

## Exhibit 5.1

- Geological Society of America, 1992 Annual Meeting, Abstracts with Programs, Cincinnati, p. A141-A142.
- Wanless, H.R., Tedesco, L.P., Hine, A.F., and Dravis, J.J. Facies geometries of shallowing-upwards sequences associated with leeward-margin sediment wedges, Caicos Platform, British West Indies. American Assoc. Petroleum Geologists 1992 Annual Convention, Program with Abstracts, Calgary, p. 137.
- Wanless, H.R., Tedesco, L.P., Cottrell, D., and Tagett, M.G. Holocene environmental history of carbonate banks in Florida Bay and Biscayne Bay, south Florida. 1992 Symposium on Florida Keys Regional Ecosystem, Abstracts. Univ. Miami and NOAA, p. 68.
- 1993 Risi, J.A., and Wanless, H.R. Physical modifications to the shallow marine environments of south Florida by Hurricane Andrew. Geological Society of America southeast Section Meeting, Tallahassee, April, 1993.
- Gelsanliter, S., and Wanless, H.R. Modifications to the mangrove environment and coastlines of south Florida as a result of Hurricane Andrew. Geological Society of America southeast Section Meeting. Tallahassee, April, 1993.
- Tedesco, L.P., Wanless, H.R., and Scusa, L. Impact of Hurricane Andrew on sandy coastlines and shallow marine banks of south Florida. Geological Society of America southeast Section Meeting. Tallahassee, April, 1993.
- Wanless, H.R., Frederick, B., Gelsanliter, S., and Risi, J.A. First Annual Report. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 28p. Plus 6 Appendices, to Everglades National Park.
- Wanless, H.R., and Tedesco, L.P. Wind transport and damage by Hurricane Andrew. Geological Society of America southeast Section Meeting. Tallahassee, April, 1993.
- 1994 Wanless, H.R., Frederick, B., Gelsanliter, S., and Risi, J.A. Semi-annual Research Report, June 1993 to February 1994. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 15p. Plus 3 Appendices, to Everglades National Park and National Biological Survey.
- Wanless, H.R. Investigators [2nd] Annual Report. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 5p. To Everglades National Park and National Biological Survey.

## Exhibit 5.1

- Wanless, H.R., Tedesco, L.P., Risi, J.A. 11-Month Progress Report, Post Hurricane Sediment Redistribution and Benthic Community Response and Evolution Within Biscayne Bay, the Coral Reef Platform and the Southwest Florida Coast. 26p, plus Figures and 5 Appendices (October 15). To Biscayne and Everglades National Parks
- 1995 Gelsanliter, S., and Wanless, H.R. Evidence for high-frequency sea-level oscillations during the late Holocene: implications for modeling sediment body initiation and evolution. Amer. Assoc. Petrol. Geologists Ann. Natl. Mtg., Program and Abstracts., p. 32a.
- Tedesco, L.P., and Wanless, H.R. Redefined paleoenvironmental interpretation of Mississippian oolites. Amer. Assoc. Petrol. Geologists Ann. Natl. Mtg., Program and Abstracts., p. 94a.
- Gelsanliter, S., and Wanless, H.R., High-frequency sea-level oscillations in the late Holocene of south Florida: a dominating control on facies initiation and dynamics. 1st SEPM Congress on Sedimentary Geology, Congress Program and Abstracts, Vol. 1, St. Pete Beach, FL, p. 58.
- Risi, J.A., Hurricane event and post-event sedimentation: taphonomy and geologic signature. 1st SEPM Congress on Sedimentary Geology, Congress Program and Abstracts, Vol. 1, St. Pete Beach, FL, p. 105.
- Wanless, H.R., Gelsanliter, S., Bischof, B., and Bossung, J. Research Progress Report. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 9p. To Everglades National Park and National Biological Survey.
- Wanless, H.R., Tedesco, L.P., Smith, T., Bischof, B., and Risi, J.A. Controls on mangrove community recovery or evolution following major hurricanes. 1st SEPM Congress on Sedimentary Geology, Congress Program and Abstracts, Vol. 1, St. Pete Beach, FL, p. 126.
- Wanless, H.R., Nelsen, T.A., Tedesco, L.P., Trefry, J.H., Blackwelder, P.L., and Risi, J.A., Documenting the styles of sedimentation and contained historical sedimentary record in shallow marine environments in and adjacent to Florida Bay, south Florida. Florida Bay Science Conference, Gainesville, FL, September, 1995 (3 p.).
- Wanless, H.R., Tedesco, L.P., Bischof, B., Risi, A. and Smith, T., Post-Event subsidence: a dominating control on mangrove community evolution following major hurricanes. Geol. Soc. America, Abstracts with Programs, 1995 Annual Meeting, Vol. 27, No. 6, p. A-452.
- Wanless, H.R., Tedesco, L.P., Risi, J.A. 17-Month Progress Report, Post Hurricane Sediment Redistribution and Benthic Community Response and Evolution Within Biscayne Bay, the Coral Reef Platform and the Southwest Florida Coast. Figures and 8 Appendices

## Exhibit 5.1

(July 5). To Biscayne and Everglades National Parks

Wanless, H.R., Tedesco, L.P., Risi, J.A. 23-Month Progress Report, Post Hurricane Sediment Redistribution and Benthic Community Response and Evolution Within Biscayne Bay, the Coral Reef Platform and the Southwest Florida Coast. 15p, plus Figures and 9 Appendices (November 20). To Biscayne and Everglades National Parks

- 1996 Tedesco, L.P., Risi, J.A., Wanless, H.R., and Hernly, F.V., The evolution of shallow marine environments of south Florida following Hurricane Andrew., Geol. Soc. America 1996 Annual Meeting, Abstracts with Programs, p. A-274.

Wanless, H.R., Bischof, B. Gelsanliter, S., Frederick, B., and Risi, J.A. Final Report. Dynamics and Historical Evolution of the Mangrove/Marsh Fringe Belt of Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences and Climatic Fluctuations. 12p. To Everglades National Park and National Biological Survey.

Wanless, H.R., Gelsanliter, S., and Herman, K., Sea-level control on carbonate, clastic and organic sediment body initiation and evolution. 30th International Geological Congress, Abstracts Beijing, Peoples Republic of China. Vol. 2, p. 209.

Wanless, H.R., Gelsanliter, S., and Herman, K., Sea-level control on carbonate, clastic and organic sediment body initiation and evolution. Geol. Soc. America 1996 Annual Meeting, Abstracts with Programs, p. A-275.

Wanless, H.R., Tedesco, L.P., and Dravis, J.J., Facies geometry of shallowing upwards sequences associated with leeward-margin sediment wedges, Caicos Platform, British West Indies. 30th International Geological Congress, Abstracts Beijing, Peoples Republic of China. Vol. 2, p. 208.

Wanless, H.R., Tedesco, L.P., Risi, J.A. 29-Month Progress Report, Post Hurricane Sediment Redistribution and Benthic Community Response and Evolution Within Biscayne Bay, the Coral Reef Platform and the Southwest Florida Coast. Figures and 8 Appendices (June 15). To Biscayne and Everglades National Parks

Wanless, H.R., Tedesco, L.P., Risi, J.A., and Smith, T., Post-event subsidence: a dominating control on mangrove community evolution following major hurricanes. 30th International Geological Congress, Abstracts Beijing, Peoples Republic of China. Vol. 2, p. 150.

Nelsen, T., Zetwo, M., Wanless, H., Risi, A., Blackwelder, P., Swart, P., Alvarez-Zarikian, C., Hood, T., Trefrey, J., Kang, W-J., Metz, S., Trocine, R., Tedesco, L., Capps, M., O'neal, M. The sediment record as a monitor of the natural and anthropogenic changes in the lower

## Exhibit 5.1

- Everglades/Florida Bay ecosystem. NOAA Report, 4 p..
- Nelsen, T., Zetwo, M, Wanless, H., Risi, A., Blackwelder, P., Swart, P., Alvarez-Zarikian, C., Hood, T., Trefrey, J., Kang, W-J., Metz, S., Trocine, R., Tedesco, L., Capps, M., O'Neal, M. The sediment record as a monitor of the natural and anthropogenic changes in the lower Everglades/Florida Bay ecosystem: a high resolution study. Program and Abstracts, 1996 Florida Bay Science Conference (Florida Sea Grant), Key Largo, Florida, p. 62-65.
- 1997 Tedesco, L.P. and Wanless, H.R. Stability of coastal wetlands of south Florida: the role of sea level and major hurricanes. Estuarine Research Federation Annual Convention, Rhode Island, Abstr. p. 81.
- Wanless, H. R., Risi, J.A., Tedesco, L.P., and Nelsen, T.A., Occurrence and character of stratification in mudbanks in south Florida. Geological Society of America Abstracts with Programs, p. A-111.
- 1998 Wanless, H.R., Nelsen, T, Trefry, J., Blackwelder, P., Swart, P., Risi, A., Hood, T., Alvarez-Zarikan, C., Kang, W-J., Metz, S., Tedesco, L.P., and O'Neal, M. Mud Banks of south Florida: Stratification Type and the contained paleoenvironmental record. in: Paleocology and ecosystem history of Florida Bay and the lower Everglades. Proceedings of Workshop held January 22-23 and sponsored by the Florida bay Program Management Committee.
- Hood, T., Alvarex-Zarikian, C., Blackwelder, P., Nelsen, T., Wanless, H.R., and Trefry, J. Paleocological reconstruction in the lower Everglades/Florida Aby Environments using ostracods and benthic foraminifera. in: Paleocology and ecosystem history of Florida Bay and the lower Everglades. Proceedings of workshop held January 22-23 and sponsored by the Florida bay Program Management Committee.
- Tedesco, L.P., O'Neal, Pachut, J.F., and Wanless, H.R. Application of surface pollen zonation to sequences of southwestern Florida: pitfalls, lessons and utility of hte pollen record. in: Paleocology and ecosystem history of Florida Bay and the lower Everglades. Proceedings of Workshop held January 22-23 and sponsored by the Florida bay Program Management Committee.
- Wanless, H.R. A summary of what we know and need to know. in: Paleocology and ecosystem history of Florida Bay and the lower Everglades. Proceedings of Workshop held January 22-23 and sponsored by the Florida bay Program Management Committee.
- 1999 Dravis, J.J., and Wanless, H.R. Application of the Caicos Platform Model to exploration: trade wind controls on carbonate distribution. 1999 AAPG Annual Convention, San Antonio, TX.



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- Wanless, H.R., Tedesco, L.P. and Hall, R.E. Historical changes in mangrove, seagrass and calcareous algal communities in south Florida. 1999 Florida Bay and Adjacent Marine Systems Science Conference, Key Largo, FL November 5, 1999.
- Tedesco, L.P., Souch, C., Pachut, J., Arthur, J.A., Wanless, H.R., Blackwelder, P., Hood, T., Alvarez-Zarikian, C., Trefry, J., Kang, W.J., Metz, S., and Nelsen, T.A. The Signature of Hurricane Sedimentation in the Lower Everglades/Florida Bay Ecosystem: Recognition of Sedimentologic, Geochemical and Microfaunal Indicators. 1999 Florida Bay and Adjacent Marine Systems Science Conference, Key Largo, FL November 5, 1999.
- Nelsen, T.A., Garte, G., Featherstone, C., Blackwelder, P., Hood, T., Alvarez-Zarikian, C., Swart, P., Wanless, H.R., Tedesco, L.P., Souch, C., Pachut, J., and Arthur, J. Understanding Long-Term Rainfall, Freshwater Flow and Salinity Patterns with Concomitant Responses of Benthic Microfauna, Stable Isotopes, and Pollen in Oyster and Florida Bays. 1999 Florida Bay and Adjacent Marine Systems Science Conference, Key Largo, FL November 5, 1999.
- 2000 "The Interaction of Hurricanes Events and Sea Level in the Dynamics and Evolution of Tropical Coastal and Shallow Marine Environments." NOAA/Office of Atmospheric Research, Senior Research Council Meeting and Symposium on Hurricane Research, Miami, FL, February 8, 2000.
- Wanless, H.R., Tedesco, L.P., and Hall, R.E., Mapping south Florida in 2100: rapid transgression of coastal wetlands. Geological Society of America, 2000 Abstracts with Programs, 34<sup>th</sup> Annual Meeting, North-Central Section, Indianapolis, p.A-66.
- Wanless, H.R., and Tedesco, L.P., "Storm Events as Initiators of Coastal Evolution in Times of Rising Sea Level" The Coastal Society 17<sup>th</sup> Conference - Coasts at the Millennium Session on "Temporal and Spacial Scaling in Coastal Science: Insights into Natural and Anthropogenic Processes" Corvallis, OR
- Wanless, H.R., Oleck, P., Tedesco, L.P., Hall, B.E. Next 100 Years of Evolution of the Greater Everglades Ecosystem in Response to Anticipated Sea Level Rise: Nature, Extent and Causes. Greater Everglades Ecosystem Restoration Science Conference, Naples, FL., December, 2000. p. 174-176.
- 2001 Wanless, H.R., "Aquifer Storage and Recovery: lessons from failing injection wells." The Everglades Coalition annual meeting, Stewart, Fl., January 2001.
- Wanless, H.R., "Geological Controls on Fate of Pharmaceuticals in Surface and Ground Waters", Oral and written presentation at the Center for Disease Control meeting on 'Fate of Pharmaceuticals in Surface and Ground Waters, October, 2001, Atlanta, Ga. Transcript in review.

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- Thorhaug, A., and Wanless, H.R., “The role of Hurricanes, Tornados and gale force winds in seagrass distribution in Subtropical and Tropical Nearshore Waters.” Abstr. Botany, 2000.
- Wanless, H.R., “Florida Geology and ASR’s” Summit Meeting of Legal Environmental Assistance Fund, Orlando, March, 2002, 9p.
- Vlaswinkel, B.M., Wanless, H., Robertson, W., Zhang, K and Leatherman, S., 2001. Airborne Laser Altimetry: the potential of first and last stop detection in mangrove swamps. Poster for MTS/IEEE Oceans 2001 Conference, Honolulu
- 2002 Wanless, H.R. “Sediment Stability in Tropical Carbonate and Organic Environments”. U.S. Army Corps of Engineers sponsored *Sediment Stability Workshop*, New Orleans, LA. 41p. PowerPoint.
- Controlling Influences on Sediment Stability of Coastal and Shallow Marine Carbonate Mud and Organic Substrates, South Florida and the Bahamas. U.S. Army Corps of Engineers sponsored *Sediment Stability Workshop*, New Orleans, LA. 17p.
- Dravis, J.J., and Wanless, H.R., “Stratigraphy and Controls on Development of Isolated Carbonate Platforms.” American Association of Petroleum Geologists Annual National Meeting, Houston, TX. March 2002.
- Wanless, H.R., and Manne, T., 2002. Caicos Platform Sand Resources Evaluation: Sediment Thickness and Character. Report to Shoreline Foundation and Turks and Caicos Government, May, 2002, 30p.
- Wanless, H.R., “An Evaluation of Cape Sable Canals, Everglades National Park, Florida.” Submitted to Everglades National Park., March, 2002; 20p. report and 62 p. PowerPoint.
- Wanless, H.R., “The Nature of Transgression: Cape Sable, Florida.” Geological Society of America, Annual Meeting & Exposition Abstracts with Programs. p. 206-207.
- Tedesco, L.P., and Wanless, H.R. H.M.S. Fowey Project: Biscayne National Park Submerged Site Stabilization, Sedimentology/Seagrass Dynamics/Bioturbation. National Park Service (22 p., 11 figs.).
- 2003 Wanless, H.R., “ Aquifer Injection and Storage Wells – Opportunity of Disaster?”. National Groundwater Association, 2003 Annual Meeting,.
- Vlaswinkel, B.M., Wanless, H.R. and Rankey, E.C. Changing land- and seascape environments at Cape Sable, a coastal wetland complex in South Florida. Geophysical Research Abstracts, Vol. 5, 07245

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2004 Vlaswinkel, B. and Wanless, H.R. Wetland and tidal channel evolution affecting critical habitats at Cape Sable, Everglades National Park, Florida. Abstract with Programs, First National Conference on Ecosystem Restoration, Florida, p. 452.

Vlaswinkel, B., Wanless, H., and Rankey, E. Processes and dynamic evolution of a rapidly changing, low energy carbonate coastal system, Southwest Florida. Abstract with Programs, 23<sup>rd</sup> IAS Meeting of Sedimentology, Coimbra, Portugal, p. 284.

Jackson, K.L., and Wanless, H.R. Shift of Everglades Discharge in Response to Late Holocene Coastal Buildup, southwest Florida/ Geological Society of America, Annual Meeting and Exposition Abstracts with Programs, Vol. 36 (5), p. 192.

2005 Wanless, H.R., and Vlaswinkel, B.M. Coastal Landscape and Channel Evolution Affecting Critical Habitats at Cape Sable, Everglades National Park, Florida. Final Report of Research Project to Everglades National Park, 197 p.

Wanless, H.R., Vlaswinkel, B.M., and Jackson, K.L. Transgressive recycling produces organic-rich carbonate muds. American Association of Petroleum Geologists Annual National Meeting, Calgary, Alberta, June.

Wanless, H.R. Layering – what does it mean? Geological Society of America, Annual Meeting & Exposition Abstracts with Programs. Paper 179-3, vol. 37, no. 7, p.400(also online as recorded session

[http://gsa.confex.com/gsa/2005AM/finalprogram/abstract\\_90897.htm](http://gsa.confex.com/gsa/2005AM/finalprogram/abstract_90897.htm))

Wanless, H.R., and Vlaswinkel, B.M. 2005. “Coastal Landscape, Wetland and Tidal Channel Evolution Affecting Critical Habitats of Cape Sable, Everglades National Park, Florida.” Final Report to National Park Service, Department of Interior, 196p.

Wanless, H.R., and Gonzales, C., “Detection, Mapping, and Characterization of Groundwater Discharges to Biscayne Bay” Final Report to State of Florida, Biscayne Bay Regional Restoration Coordination Team, as sub-contract with National Oceanic and Atmospheric Administration through CIMAS. With Dr. John R. Proni, NOAA, AMOL., 11p.

2006 Wanless, H.R. with others. Final report and Findings from Technical Group, Envisioning the Future of the Gulf Coast Conference, New Orleans. By America’s Wetland: Campaign to Save Coastal Louisiana, 11p.

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Wanless, H.R., and Vlaswinkel, B.M., Composite shallowing sequences generated within overall highstands. Geological Society of America Annual National Meeting, Abstracts with Programs, p.477, Philadelphia, PA.

- 2007 Wanless, H.R., Integrated Fine-Scale Temporal and Spatial Controls on Carbonate Sedimentation (Abstract). SEPM Research Symposium - Changing Paradigms in Carbonates, American Association of Petroleum Geologists/ SEPM Annual Meeting, Long Beach, CA.

Wanless, H.R., A history of poor economic and environmental renourishment decisions in Broward County, Florida (Abstract). Symposium on Endangered Beaches, Geological Society of America Annual National Meeting, Denver, October, 2007.

Wanless, H.R., Water sources and “re” sources and potential losses: south Florida’s diminishing freshwater future. *Partnering with Water and Sewer Agencies: The Key to Future Development* , Lormen Educational Services, Eau Claire, WI, p. 491-504.

Wanless, H.R., Leatherman, S., and Committee. Statement on Sea Level Rise in the Coming Century. Science and Technology Committee, Miami-Dade County Climate Change Task Force. September 20, 2007; revised with full citations and notes, January 18, 2008.

- 2008 Dravis, J.J., and Wanless, H.R> Caicos Platform models of Quaternary carbonate deposition controlled by stronger easterly Trade Winds – applications to petroleum exploration. American Association of Petroleum Geologists Annual Convention and Exhibition, Abstracts Volume, San Antonio, TX, P. 47.

Van Ee, N., and Wanless, H.R. Ooids and grapestone – a significant source of carbonate mud. American Association of Petroleum Geologists Annual Convention and Exhibition, Abstracts Volume, San Antonio, TX, P. 205.

Wanless, H.R., and Smith, L., How N.H. Voters Can Help Save Florida. *The Keene Sentinel*, P. 6, January 3, 2008.

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Wanless, H.R. Role of Storms and Prevailing Energy in Defining Sediment Body Geometry, composition and texture from Caicos Platform. American Association of Petroleum Geologists Annual Convention and Exhibition, Abstracts Volume, San Antonio, TX, P. 211.

Wanless, H.R. Pleistocene reefal and oolitic core sequences from West Caicos, Caicos Platform. American Association of Petroleum Geologists Annual Convention and Exhibition, Abstracts Volume, San Antonio, TX, P. 211.

- 2009 Wanless, H.R. Sea Level Rise on the Southern Florida Coast: Past, Present, and Future Trends. Rethinking Protected Areas in a Changing World, The 2009 George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, Program and Abstracts. Portland, Oregon. P. 60.

### **Book Reviews:**

- 1980 The North-West European Shelf Seas: The Sea Bed and the Sea in Motion. I. Geology and Sedimentology. (F.T. Banner, and M.B. Collins, and K.S. Massie, Eds.), Bull. Mar. Sci., 30(3): 746.
- 1981 Barrier Islands from the Gulf of St. Lawrence to the Gulf of Mexico. (S.P. Leatherman, Ed.), Academic Press, New York.
- 1983 "Tempestites", review of Cyclic and Event Stratification, 1980, G. Einsele and A. Seilacher, Eds., Science, v. 220, #4564: 296-297.
- 1987 An Introduction to Carbonate Sediments and Rocks (Terence P. Scoffin), Bull. Mar. Sci. 41(3): 909-910.

### **19. Other Works Accepted for Publication:**

#### **Refereed Articles Accepted and in Press:**

Tedesco, L.P., and Wanless, H.R. Fabric selective dolomitization and porosity enhancement in fine-grained shelf and bank facies. Proceedings of the International Symposium on the Exploration and Development of Low Permeability Oil and Gas Reservoirs, Xian, China [12 msp., 12 figs.; in English and Chinese].

Wanless, H.R. Porosity and permeability destruction and enhancement in limestones during burial and tectonic stresses. Proceedings of the International Symposium on the Exploration and Development of Low Permeability Oil and Gas Reservoirs, Xian, China [19 msp., 15 figs.; in English and Chinese].

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## PROFESSIONAL

20. **Funded Research Performed**, H.R. Wanless, Principal Investigator. (Since 1978):

Role and Record of Storms on Sedimentation in Subtropical Lagoons, National Science Foundation (Geology), 1978-1980.

Pressure Solution and Dolomitization, National Science Foundation (Geology), 1978-1980.

Sedimentation History of Loxahatchee River Estuary, Florida. U.S.G.S., 1981-1982.

Sources and Circulation of Turbidity in Biscayne Bay, Florida. Dade County, 1982-1984.

Sources and Circulation of Turbidity in Biscayne Bay, Florida. Sea Grant, 1982-1984.

Limestone Diagenesis and Porosity Modification Associated with Exposure Surfaces: Influence of Climate, Depositional Fabric and Topography, Exxon Production Research Co., Tenneco Oil Co., and Union Oil of California, 1985-1986.

Effect of Hurricane Kate on Carbonate Sedimentation, Caicos Platform, B.W.I. National Science Foundation (Surficial Processes) 1986.

Carbonate Mud Mound Facies Evolution. Champlain Oil, 1987.

Carbonate Facies on Caicos Platform. Union Oil of Calif., and ARCO, 1987, 1988 and 1989.

Facies Generation, Transformation and Destruction by Repetitive Excavation and Infilling of Burrow Networks, National Science Foundation, 1990-1991.

Carbonate Facies and Shallow Seismic Signature on Caicos Platform. Texaco, BP and UNICAL, 1991.

Dynamics and Historical Evolution of the Mangrove/Marsh Fringe, Southwest Florida, in Response to Sea-level History, Biogenic Processes, Storm Influences, and Climatic Fluctuations. Department of Interior, National Park Service, June, 1992 to June, 1996.

Post-Hurricane Sediment Redistribution and Benthic Community Response and Evolution within Biscayne Bay, the Coral Reef Platform and the Southwest Florida Coast. Department of Interior, National Park Service, November 1993 to October 1996.

Sediment Dynamics and Substrate Characterization Legare Anchorage, Mid-Reef-Tract Shelf, Biscayne National Park. National Park Service, April 1995 to December 1995.

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Historical Changes in the Coastal and Shallow Marine Environments in and Proximal to Florida Bay, Florida: a Retrospective analysis using sedimentologic parameters. Department of Commerce, National Oceanic and Atmospheric Administration, April 1994 to June 2001.

Project SUCCEED: School University Community Coalition for Excellence in Education. Co-geology leader, working with members of Biology, Chemistry and Physics to develop an integrated curriculum for middle school science and for undergraduate education majors. U.S. Department of Education (5 years: 2000-2004; discontinued participation 2002)

Experimental coral/coralline algae transplanting on carbonate banks in Biscayne Bay. Oil Spill Research Fund, subcontract of sea grass planting program (April 2001-April 2002).

“Coastal landscape, wetland and tidal channel evolution affecting critical habitats of Cape Sable, Everglades National Park, Florida.” National Park Service, August 2002-June 2005.

“Detection, Mapping, and Characterization of Groundwater Discharges to Biscayne Bay” State of Florida, Biscayne Bay Regional Restoration Coordination Team, as sub-contract with National Oceanic and Atmospheric Administration through CIMAS. With Dr. John R. Proni, NOAA, AMOL. March 2003- December 2004

21. **Editorial Responsibilities:**

Reviewer for numerous journals.

Co-Chair Biscayne Bay Initiative Science Survey Team, responsible for preparation of Synthesis, critical issues and recommendation to the Florida Legislature, 1999-2001.

Invited member of Core Group for evaluating and prioritizing research and monitoring research (RECOVER) associated with the Comprehensive Everglades Restoration Plan 2004-2005.

22. **Professional and Honorary Organizations:**

Society of Economic Paleontologists and Mineralogists

International Association of Sedimentologists

Gulf Coast Section; Society of Economic Paleontologists and Mineralogists

Geological Society of America, elected Fellow

American Association of Petroleum Geologists

Board of Directors: The Conservancy, Inc. (Collier County) (1983-1987)

Miami Geological Society

23. **Honors and Awards:**

1976 American Association of Petroleum Geologists General Chairman's Award for Best Paper in Poster Session at 61st Annual Meeting in New Orleans.



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- 1980 Best paper for 1979 in Journal of Sedimentary Petrology. ("Limestone Response to Stress: Pressure Solution and Dolomitization") from the Society of Economic Paleontologists and Mineralogists. Presented at May 1981, San Francisco Mtg.
- 1986 Society of Economic Paleontologists Mineralogists Excellence of Presentation: AAPG-SEPM Annual National Meeting, Atlanta. "Burrow-Generated False Facies and Phantom Sequences." Presented at June 1987, Los Angeles Mtg.
- 1993 Awarded Undergraduate Course Enhancement Grant, College of Arts and Sciences, University of Miami.
- 2001 Earth Trustee, Presented at the United Nations by the Earth Society, March 21, 2001.
- 2002 Environmental Leadership Award for 2001, Sierra Club, Miami Group.
- 2004 Honorary Member Board of Directors, Montgomery Botanical Center, Miami-Dade County
- 2007 Sabbatical, Spring 2007 – College of Arts and Sciences, University of Miami.
24. **Post-Doctoral fellowships:** NONE
25. **Other Professional Activities** - Invited Lectures (see #18 for papers presented at scientific meetings and symposiums):
- 1981 Sediment Diagenesis, a NATO Advanced Study Institute at Reading University, U.K., 12-25 July, 1981. Specific Topic: "Late Stage Diagenesis in Carbonates".
- "Dynamics of Carbonate Sedimentation in Florida Bay". Invited lecture at Univ. of South Florida, October, 1981.
- 1982 "Modern Carbonate Sedimentation and Early Diagenesis". Invited lecture and field study, University of Kansas, March, 1982.
- "Sea Level Rise: Evidence and Implications". TV Channel 17, Miami, March, 1982.
- "Sea Level Rise: Evidence and Implications". Invited Lecturer at Florida Department of Environmental Regulation, Tallahassee, Florida, March, 1982.
- "How Biscayne Bay Works". Invited Lecturer and Techn. Coordinator, October, 1982, RSMAS and Dade County sponsor.
- 1983 Invited Lecture series, University of Tübingen, West Germany, I. "Pressure Dissolution"; II. "Facies Reconstruction of the Cambrian of Grand Canyon", November, 1983.

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- "Styles of Pressure Dissolution", Abu Dhabi Reservoir Research Foundation, Abu Dhabi, U.A.E., November, 1983.
- 1984 "Understanding and Managing Florida's Estuaries", Keynote speaker at St. Lucie Estuary Coordinating Conference, Jensen Beach, FL., March, 1984.
- "Biscayne Bay Problems and Solutions". Baynanza Symposium RSMAS, October, 1984.
- 1985 "Environmental Implications of Sea Level Rise". The Conservancy, January, 1985.
- 1986 "Storm Sedimentation and Burrow Dynamics". Department of Geology, Cambridge University, February, 1986.
- "Coastal Dynamics and Trends: A Necessary Background for Beach and Shore Management". Keynote speaker, 1986 Coastal Management Conference-Florida's Coastal Future: The Challenge Remains. State of Florida. Department of Environmental Regulation, Miami Beach, September, 1986.
- "The Geology of Hurricanes", Distinguished Lecture Series, in celebration of the 60th Anniversary of the University of Miami, October, 1986.
- "Hurricanes and Sea Level Rise; Effect on Coastal Environments", Fairchild Tropical Gardens, Annual Mtg. Native Plant Society, October, 1986.
- "Influence of Sea Level Rise on Coastal Mangrove Communities", Naples City Council, December, 1986.
- 1987 "Biogenic Facies Destruction, Modification and Generation", Champlain Oil Co., Denver, June, 1987.
- 1988 "Will Our Rising Sea Level Cause Disaster in South Florida?" American Littoral Society, South Florida Chapter, Key Biscayne, Florida, March 1988.
- Evolution of Coastal Environments in Response to Increased Rate of Sea Level Rise", Admirals of the Fleet of Florida, October, 1988.
- "The Role of Excavating Burrowers in Generating, Transforming and Destroying Sedimentary Facies", Kansas Geological Survey and University of Kansas, October, 1988.
- 1990 Invited Lecture series, National Taiwan University, Taipei, Republic of China, I. "New Models of Carbonate Platform Sedimentation"; II. "Burrow Generation and Modification of Sedimentary Facies", March, 1990.

## Exhibit 5.1

Invited Lectures series, East China Petroleum University of Beijing, Peoples Republic of China, I. "New Models of Carbonate Platform Sedimentations"; II. "New Models of Ooid Sedimentation"; III. "Carbonate Reefs and Leeward Margin Evolution"; IV. "New Models of Carbonate Tidal Flat Sedimentation"; V. "Seagrass/Crinoid Influence on Sedimentation"; VI. "Origin and Growth of Modern Carbonate Mud Mounds"; VII. "Porosity Evolution During Karst and Calcrete Development"; VIII. "Holocene Evaperite and Dolomite Sedimentation"; IX. "Cambrian Cyclic Sedimentation"; X. "Pressure Dissolution and Dolomitization in Carbonate Rocks", April, 1990.

"New Models of Carbonate Platform Sedimentation", Chengdu College of Geology, Chengdu, Sichian, Peoples Republic of China, April, 1990.

Invited Lectures series, Changying Petroleum Exploration Gen. Co. of China National Petroleum Corp., Qinayang, Gansu, Peoples Republic of China; I. "New Models for Ooid Sedimentation"; II. "Reefs and Leeward Margin Evolutions"; III. "Carbonate Tidal Flat and Evaperite sedimentation and Holocene Dolomitization"; IV. "Origin and Facies Development of Modern Carbonate Mud Mounds"; V. "Porosity Evolution During Karst and Calcrete Development"; VI. "Pressure Dissolution and Dolomitization in Carbonate rocks", April, 1990.

Invited Lectures series, East China Petroleum University at Danyang, Shengdong, Peoples Republic of China, I. "New Models of Ooid Sedimentation"; II. "Reefs and Leeward Margins Evolution of Carbonate Platforms"; III. "Carbonate Tidal Flat Sedimentation"; IV. "Origin and Facies Development of Modern Carbonate Mud Mounds"; V. "Pressure Dissolution and Dolomitization in Carbonate Rocks", April, 1990.

"Observations of Changing Sea Levels and Storms on Coastal Environments", Astronaut Office Colloquium on Earth: a Changing Planet, Johnson Space Center, Houston, Texas, July 25, 1990

"New Models of Carbonate Platform Sedimentation". Royal Dutch Shell, Den Hague, The Netherlands, August 1990.

"New Models of Carbonate Platform Sedimentation". British Petroleum, London, August, 1990.

"Biscayne Bay's Response to Urbanization and Rising Sea Level", Baynanza 90 and Sierra Club, Miami, FL, Oct., 1990.

"Sea Level and Hurrricanes: Their Effects on Our Coastal Environments". RSMAS School Council Staff Seminar Series, December, 1990

1991 "Porosity and Permeability destruction and Enhancement in Limestones during Burial and

## Exhibit 5.1

- Tectonic Stresses." International Symposium on the Exploration and Development of Low Permeability Oil and Gas Reservoirs, Xian, China, May, 1991.
- "Differentiating Porosity Development Resulting from Karst Versus Late-stage burial Dissolution in Limestones", Changying Petroleum Exploration Co. of China National Petroleum Corp., Qinayang, Gansu, China, June, 1991.
- "Origin and Evolution of Holocene Sedimentary Environments in Florida Bay". Indiana University Purdue University at Indianapolis, Indiana, November, 1991.
- 1992 "Plio-Pleistocene stratigraphy of Caicos Platform based on high-resolution Seismic profiles and core borings." Texaco Research and Exploration, Houston, February, 1992.
- "Recommendations for the Future Management of Key Biscayne's Beaches and Coastline," Village of Key Biscayne Public Lecture Series in Conjunction With Master Plan Development, April 1992.
- "Hurricane Andrew: the Geological Implications." Special evening symposium at the 1992 Annual Meeting of the Geological Society of America, Cincinnati. Organizer and one of four speakers.
- "Physical and Biological Effects of Hurricane Andrew: a Summary. Hurricane Andrew Session of the 1992 Symposium on Florida Keys Regional Ecosystem. NOAA and University of Miami, RSMAS Conveners, Miami, November, 1992.
- 1993 "Hurricane Andrew: the Short and Long Term Impacts." Sigma XI Lecture series, Tallahassee, April 1993.
- 1994 "The Impact of Hurricane Andrew on the Terrestrial, Wetland, Coastal and Shallow Marine Environments of Florida" Environmental Lecture Series, The Conservancy, Inc., Naples, FL; February, 1994
- "Sea Level Rise and Mangrove Forests" Department of Environmental Protection Coastal Zone Resource Management Workshop, Rookery Bay National Estuarine Research Reserve, Naples, FL; February, 1994.
- 1995 "Coastal changes resulting form Hurricanes and Global Warming" NOVA University, September, 1995
- "Geology of Western Cuba" Miami Geological Society, September, 1995
- "How Hurricanes and Sea-Level Rise Are Changing Our Coastal Environments" Science Expo '95, Univ. Miami, September, 1995

## Exhibit 5.1

- 1996 “Land from the Sea: the Geological Origins of south Florida;” Lecture #2 of the Miami Centennial Celebration Lecture Series, January, 1996.

Past and Future Sea-Level Rise

- 1997 “The Geologic Wonders of Newfoundland,” Miami Geological Society, February, 1997

“Hurricanes and Sea-Level Rise: Effectors of Coastal Evolution,” Florida Tech, Melbourne, FL, February, 1997.

“Anticipated Sea Level Change and Effects” and Panelist at ‘Impacts of Climate Change in South Florida’s Growing Urban Area’ a regional teleconference in conjunction with ‘President Clinton Speaks Out on Climate Change’, Florida international Univeristy, October, 1997.

“Beach Dynamics and Coastal response to Sea Level Rise and Hurricane Events,” Rookery Bay National Estuarine Research Reserve, November, 1997

- 1998 “Geological History, Evolution of Modern Environments and Processes Controlling the Coastal Systems of Southwest Florida”. A lecture and field seminar for Faculty of the Keck Consortium of Undergraduate Geoscience Departments. Naples, FL January 7-10, 1998.

“Mud Banks of South Florida: Stratification Type and the Contained Paleoenvironmental Record.” Workshop on Paleoecology and Ecosystem History of Florida Bay and the Lower Everglades. Sponsored by the Florida bay Program Management Committee, Key Largo, January, 1998.

“A Summary and Perspective on What We Know and need to Know” Workshop on Paleoecology and Ecosystem History pf Florida Bay and the Lower Everglades. Sponsored by the Florida bay Program Management Committee, Key Largo, January, 1998.

(poster) Stratification types of Florida Bay. Workshop on Paleoecology and Ecosystem History pf Florida Bay and the Lower Everglades. Sponsored by the Florida bay Program Management Committee, Key Largo, January, 1998.

“Natural and Geological Wonders of Newfoundland.” Miami Geological Society, February 28, 1998.

“Geological Influences on the Big Cypress Basin.” Workshop II of hte Big Cypress Basin Science Plan Steering Committee, Department of Environmental Protection. February 26, 1998.

## Exhibit 5.1

“The Impact on Florida of Global Warming.” 1st Orlando Earth Day Symposium, sponsored by Orange County Medical Society Environmental Committee., Orlando Regional Medical Center, April 25, 1998.

1999 “The Geologic Dynamics of Everglades National Park.” Everglades National Park Interpreter’s Training Workshop. January, 1999.

“Life as a Geoscientist.” Centennial Middle School, Miami-Dade County, April, 1999.

"The Future of South Florida." Friends of the Everglades, April 1999

“South Florida in the Face Of Global Warming.” Miami Marine Council. Coral Gables, FL, May, 1999.

“Sea Level Rise Adaptation Options for South Florida.” Environmental Protection Agency Conference: *Climate Change: What Does It Mean for South Florida?* Miami, FL, May 26, 1999.

“Sea Level Rise Adaptation for the Florida Keys.” Environmental Protection Agency Conference: *Climate Change: What Does It Mean for the Florida Keys?* Marathon, FL, May 27, 1999.

“Harold Rollin Wanless – a Son’s View.” 8<sup>th</sup> International Carboniferous Congress, Session on Cyclothems dedicated to Harold R. Wanless. Calgary, Alberta, Canada, August 18, 1999.

"The origin and dynamics of intertidal sand and mud flats." Rookery Bay National Marine Estuarine Reserve Conference on biodiversity of intertidal environments, Naples, FL, November 1999

"South Florida Environments in the Face of Rising Sea Level." Sierra Club, Miami Chapter, Coral Gables, FL, November, 1999.

2000 "South Florida-- the Next 100 Years." South Florida Audubon Society, January, 2000

"Evolution of Biscayne Bay -- Past and Future." Biscayne Bay Partnership Initiative, Science Survey Team Working Session, Miami, FL, January 28, 2000

2001 “Aquifer Storage and Recovery: lessons from failing injection wells.” Everglades Coalition Annual Meeting invited breakfast speaker, Stewart, Fl. January 2001.

“The Evolution of the Florida Keys and Reefs over the next 100 years in the face of global warming.” John Pennecamp State Park, Key Largo, Fl. February 2001

The Risk of Injection Wells and impure ASRs.” LEAF meeting on Aquifer Storage and

## Exhibit 5.1

- Recovery, Winter Park, Fl. May 2001.
- “You’re a Scientist Now – Don’t Believe a Word You Hear.” INQUIRY, University of Miami, November, 2001.
- “The Risks to South Florida over the next 100 Years from Global Warming: Need for Council Action.” South Florida Regional Planning Council, Hollywood, Fl. December 3, 2001
- “The Risks to South Florida over the next 100 Years from Global Warming: need for Coalition Action.” Florida Gold Coast Clean Cities Coalition meeting, Hollywood, Fl. December 3, 2001.
- 2002 “Aquifer Storage and Recovery” – a panel on questions and feasibility. The Everglades Coalition annual meeting, Ft. Lauderdale, Fl., January 2002.
- “Biscayne Bay in the Face of Global Warming” National Park Service Discovery Series Lectures, Miami, FL, April 2002.
- Wanless, H.R. “Sediment Stability in Tropical Carbonate and Organic Environments”. U.S. Army Corps of Engineers sponsored *Sediment Stability Workshop*, New Orleans, LA, Jan 22-24, 2002. (Invited presenter and panelist)
- Wanless, H.R., “An Evaluation of Cape Sable Canals, Everglades National Park, Florida.” Invited presentation to Superintendent and staff, Everglades National Park, October, 2002.
- Wanless, H.R., “Rapid Ecosystem and Coastscape Evolution of South Florida, in response to Sea Level Rise, Hurricane Events, and Human Stresses”, National Oceanic and Atmospheric Administration, National Ocean Service, Coastal Oceans Division. Rockville, MD, (with synchronous feed to regional centers), October 2002.
- Wanless, H.R., “The Nature of Transgression: Cape Sable, Florida.” Geological Society of America Annual National Meeting, Denver, October, 2002
- 2003 “Inundation of South Florida: Past, Present and Future.” Invited paper at 13<sup>th</sup> South West Florida Water Research Conference: The Rising Tide: Emerging Coastal Issues, Gulf Coast University, November 2003.
- “Aquifer Injection and Storage Wells – Opportunity or Disaster?” invited paper at the National Groundwater Association meeting: Groundwater in Coastal Zones, Availability, Sustainability and Protection, Orlando, December, 2003.
- 2005 South Florida Coastal Response to anticipated Sea level Rise” invited presenter and panelist, Everglades Coalition Annual Meeting, Naples, January, 2005.

## Exhibit 5.1

“With Global Warming – Comes the Sea” invited lecturer and panelist, 11<sup>th</sup> Annual Public Interest and Environmental Conference, University of Florida, Gainesville, FL, February, 2005

“Regional Impacts of Climate Change: Hurricanes and Sea Level Rise” and panelist South Florida Parks and Preserves, Climate Friendly Parks Workshop, Environmental Protection Agency and National Park Service. Everglades National Park, Florida, June, 2005

“Welcome to the Tropics: Where the Canadian Rockies Were Made” Canmore Geoscience Museum Open House, Canmore, Alberta, June, 2005

2006 Climate Change Workshop, Florida Atlantic University, January, 2006.

“Impact of Climate Change on South Florida” on *Topical Currents* on WLRN Radio, January 19, 2006

“Coastal Systems and Climate Change – It is real – It is Now – Change Your Ways – Change Your Plans” South Florida Association of Environmental Professionals Conference on Global Climate Change: Implications for South Florida’s Future, Florida, January 20, 2006.

“The Everglades in the Next 100 Years” and panelist discussing ‘Global Warming’s Threats to Florida’s Everglades, Economy and Way of Life.’ Everglades Restoration: Are We Making Progress? Everglades Coalition 21st Annual Conference, Stuart, FL, January, 2006

“Providing Water for a Viable Everglades Restoration” and Panelist discussing ‘Deep Concern for ASR Wells and Everglades Restoration.’ Everglades Restoration: Are We Making Progress? Everglades Coalition 21st Annual Conference, Stuart, FL, January, 2006.

“Towards Effective Everglades Restoration and South Florida Resource Management” 5<sup>th</sup> Annual Environmental Ethics Conference, Ft. Lauderdale, Florida, February 17, 2006.

“Beach Renourishment is Becoming an Economic and Environmental Disaster in Florida” Invited workshop with Regional Environmental Protection Agency heads preliminary to a regional workshop and new regulations. Palm Beach, Florida, February 22, 2006.

“How We Know Global Warming is Human Induced and Real” League of Women Voters, Broward County, Florida, February 25, 2006.



## Exhibit 5.1

“With Warming Comes the Sea – Global Warming’s Effect on South Florida”, Broward County Audubon Society, Ft. Lauderdale, FL. April 20, 2006.

“We have Made a Mess of Earth and Earth is Responding” Earth Day Miami. Miami, FL April 22, 2006

“Saving America’s Wetland’s – Alternatives for Action” A presentation to the State of Louisiana’s Governor’s office based on recommendation of an international workshop held in April in Louisiana. New Orleans, LA. June 1, 2006.

“Anticipating and Managing Climate Change – a Conservation View”, The Nature Conservancy annual Florida Meeting St. Petersburg Beach. September 17, 2006.

“Global Warming and its Implications for Managing South Florida” Broward County Water Advisory Board, Ft. Lauderdale, September 21, 2006

“Global Warming and Coastal Architecture” University of Miami, November 11, 2006

“Anticipating and Managing Global Warming in Florida – A Conservation View”, to the Florida Board of Directors, The Nature Conservancy./ November 16, 2006.

2007 “Global Warming: Its Effect on Southeast Florida” VisionBROWARD Leadership Community Forum, Ft. Lauderdale, FL. February 9, 2007

“Rising Sea Level and its Anticipated Effect on Southwest Florida” Gulf Coast Alliance Workshop on Water. Rookery Bay, Naples, FL, February 20, 2007.

“Comes the Sea – Global Warming’s Anticipated Effect on South Florida” Miami Rotary Club, Miami, FL, February 22, 2007.

“Comes the Sea – Global Warming and Sea Level in South Florida” Dade Native Plant Society, Fairchild Gardens, September 25, 2007.

“Water Resources and ‘Re’Sources and Potential Losses – South Florida’s Diminishing Freshwater Future” Legal Symposium - Partnering With Water and Sewer Agencies: The Key to Future Development in Florida, Miami, October 26, 2007.

“Florida’s Diminishing Coastal Future” Florida Legislature, Energy and Environmental Council – Symposium on the Science and Economics of Climate Change, Tallahassee, November 6, 2007.

“Florida’s Diminishing Coastal Future” Symposium on Global Warming in honor of Dr.

## Exhibit 5.1

Jack Parker, Florida International University, November 29, 2007.

“Florida’s Diminishing Coastal Future” South Florida Association of Environmental Professionals, Workshop and Symposium for Wetland Professionals in South Florida, Miami, November 29, 2007.

2008 “Rising Seas: Will the Everglades and Coastal Areas Survive?” Keynote Address, Everglades Coalition Annual Conference, Captiva, FL, January 12, 2008.

“Rising Seas: Will the Everglades and Coastal Areas Survive?” Miami-Dade College, sponsored by Earth and Environmental Ethics Institute, Miami, January 31, 2008.

“Comes the Sea” Global Warming Teach-In, University of Miami, January 31, 2008.

“Rising Seas: Will the Everglades Survive?” Climate Change Discussion/Mini-Workshop, Greater Everglades Ecosystem Restoration, Florida Atlantic University, February 6, 2008.

“Managing the Everglades in a Time of Rapidly Rising Sea Level” State of Florida Legislative Committee on Everglades Restoration, Tallahassee, February 18, 2008.

“Rising Sea Level and Implications for Future Development in Miami-Dade County.” Hold The Line Meeting, South Miami, Florida. February 20, 2008.

“Rising Seas: Realities for our South Florida Coastlines.” Climate Protection and Greenhouse Gas reduction Workshop for Local Governments, Palm Beach, FL, February 21, 2008.

“Rising Seas: Realities for Our South Florida Coastlines.” Kiwanis Club of Coral Gables, FL, March 11, 2008.

“Rising Seas: Realities for the Everglades and Our South Florida Coastlines.” Ecosystem Science Seminar, University of Miami, FL, March 19, 2008.

“Sea Level Rise in South Florida.” Faiths United for Sustainable Energy (FUSE), Beth Ann Synagogue, Miami Beach, FL, March 31, 2008.

“Comes the Sea: Earth’s Changing Coastal Future.” Quantum Leap – 1<sup>st</sup> Annual Meeting of the Climate Group, Miami, FL, April 1, 2008.

“Rising Seas: A Challenge to the Everglades’ Survival – Realities and What We Have to Do.”

Friends of the Everglades – Founder’s Day Celebration, April 13, 2008.

## Exhibit 5.1

“Key Biscayne – Past, Present and Future.” Key Biscayne / RSMAS Lecture Series, Key Biscayne, FL, April 15, 2008.

“Comes the Sea: South Florida in the Face of Global Warming.” Friends of Forest Hill Environmental Academy – 8<sup>th</sup> Annual Nicolas Megrath Dinner, Palm Beach, FL, April 17, 2008.

“Statement on Sea Level in the Coming Century” from the Science Committee of the Miami-Dade County Climate Change Advisory Task Force for the Board of County Commissioners, Miami, FL, April 22, 2008.

“Comes the Sea: Earth’s Changing Coastal Future.” Scripps Howard Institute on the Environment (a National Workshop for Journalists), Florida Atlantic University, Jupiter Campus, May 12, 2008.

“Implications of Rising Sea Level on Everglades Restoration.” American Geophysical Union Annual Meeting, Ft. Lauderdale, FL, May 28, 2008.

“Comes the Sea: Earth’s Changing Coastal Future.” One-on-one presentation and discussion with Presidential Candidate and U.S. Senator John McCain and Florida Governor Charlie Crist, in the Everglades, FL, June 6, 2008.

“Ocean Effects of Rising Sea Level on Coastal Environments.” Florida Wildlife – on the Front Line of Climate Change, Orlando, FL, October 1, 2008.

“Comes the Sea: Earth’s Changing Coastal Future.” University of Miami URB 201 – Metropolitan Miami, Coral Gables, FL, September 9, 2008.

“Climate Change and Sea Level Rise – Impacts on Florida in the Coming Century.” Florida Shore and Beach Preservation Association Annual Meeting, Captiva Island, FL, September 12, 2008.

“Ocean Effects of Rising Sea Level on Coastal Environments – Biscayne Bay.” Miami, FL, October 10, 2008.

“In Future of the Environment and the Nation: A Forum on Sustainability.” A Dialogue for Democracy, University of Miami, Coral Gables, FL, October 22, 2008.

“Ocean Effects of Rising Sea Level on Coastal Environments.” University of Miami Oceans and Human Health Graduate Course, RSMAS, Miami, FL, November 3, 2008.

“Rising Seas: Realities for the Southwest Coast of Florida.” A Sustainable Southwest Florida: Creating a vision. Ft. Myers, FL, November 6, 2008.

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“Rising Seas: Realities for the Coming Century.” University of Miami ECS201 (Contemporary Environmental Issues), Coral Gables, FL, November 13, 2008.

“Rising Seas: Coastal Realities for the Coming Century.” University of Miami, RSM-581 (Carbon and Climate), Virginia Key, FL, November 21, 2008.

“South Florida and Global Warming.” Miami-Dade County League of Cities Dinner Meeting, Miami, FL, December 3, 2008.

2009 “Climate Change and Sea Level Rise – The Coming Century.” Broward County Climate Change Task Force, Ft. Lauderdale, Florida. January 22, 2009.

“Effects of Rising Sea Level on the Florida Keys and Reef Tract.” Federal Regional Management Meeting. Marathon, Florida. January 27, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” Gumbo Limbo Eco Center Evening Lecture Series, Boca Raton, Florida. January 27, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” Miami-Dade College, Kendall Campus, Miami, Florida. February 5, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” Space Coast Climate Change Initiative, Melbourne, Florida. February 9, 2009.

Climate and Ecosystem workshop, invited panelist. Washington D. C. February 17-19, 2009.

Beach Restoration Panelist. Ocean Awareness Week. University of Miami, Coral Gables, Florida. February 24, 2009.

“Sea Level Rise on the Southern Florida Coast: Past, Present, and Future Trends.” In Session: Navigating Terra Incognita: New Management Strategies in an Era of Climate Change II • Confronting Climate Change in Everglades and South Florida. Rethinking Protected Areas in a Changing World, The 2009 George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, Program and Abstracts. Portland, Oregon. March 3, 2009, P. 60.

“Climate Change and Sea Level Rise – the Coming Century.” EPH 541, Environmental Health, University of Miami Medical School, Miami, Florida. March 24, 2009.

“Effects of Sea Level Rise in South Florida in the Coming Century.” The Impact of Climate Change on South Florida. Florida Atlantic University. April 3, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” Gateway To Green

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Symposium, Parrot Jungle venue, Miami, Florida. April 8, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” City of Plantation Climate Change Task Force, Plantation, Florida. April 15, 2009.

“Climate Change and Sea Level Rise – the Coming Century.” Broward County Directors and Managers Quarterly Meeting, Ft. Lauderdale, Florida. April 17, 2009

“The Influence of Sea Level Change on Florida’s Ecology.” Florida Native Plant Society, 29<sup>th</sup> Annual Conference. West Palm Beach, Florida. May 23, 2009

“Rising Sea Level and Florida’s Tenuous Future.” PCB 3352 – Issues in Human Ecology with a focus on South Florida. Florida Atlantic University, Davie Campus, Florida. October 5, 2009.

“Accelerating Predictions for Rising Sea Level: Florida’s Tenuous Future.” Southeast Coastal and Ocean Stewardship Workshop: Challenges in a Changing Environment. Mandarin Oriental Hotel, Miami, Florida. November 2, 2009.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” Oxbow Eco-Center Lecture Series. Port St. Lucie, Florida. November 7, 2009.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” Executive Committee, South Florida Builders Association. Miami-Dade Water and Sewer building, Miami, Florida. November 12, 2009.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” Harbor Branch Evening Lecture Series, Ft. Pierce, Florida. November 18, 2009.

“Coral Gables, A Jewel From the Sea – Will It Return?” Coral Gables Museum, Coral Gables, Florida. November 7, 2009.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” Managing Climate Change with Sustainable Initiatives. Lee County, Florida. December 4, 2009.

“Be Bold or Start Packing up the Shop – Recommendation to move the Mississippi River Outlet from the Scientists of the ‘Envisioning the Future of the Gulf Coast Workshop.’” White House Council on Environmental Quality, Washington D.C., December 1, 2009.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” Florida Natural Resources Leadership Institute. Preparing for Sea Level Rise: Local Government Planning and Community Management, Deauville Hotel, Miami Beach, Florida, December 10, 2009.

## Exhibit 5.1

2010 “Sea Level Rise and the Need for More Proactive Management of the Everglades.” Global Climate Change and the Changing Role of Everglades Restoration. Everglades Coalition Conference, Palm Beach Gardens, Florida. January 8, 2010.

“Rapid Sea Level Rise Steps Are the Norm in Post-glacial Rise.” Predicting Climate of the Coming Decades: Paleo-perspective on decadal variability. Rosenstiel School of Marine and Atmospheric Science, University of Miami, Virginia Key, Florida. January 13, 2010.

“Capstone Address - Summary of Challenges and Opportunities.” Keeping out Heads Above Water: Surviving the Challenges of Sea Level Rise in Florida. Archbold Biological Station, Lake Placid, Florida. January 13, 2010

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future”. Dagny Johnson Key Largo Hammock Botanical State Park Lecture Series, John Pennecamp Coral Reef State Park, Key Largo, Florida, January 27, 2010.

“Accelerating Sea Level Rise and Florida’s Tenuous Coastal Future.” ECS 310 – Sustainable Living (but maybe not in south Florida. University of Miami, Coral Gables, Florida. January 28, 2010.

“Sea Level Rise in the Coming Century – How Much and How Do We Prepare?” NOAA sponsored Community Conversations on Climate Change and Sea Level Rise, Ft. Lauderdale, Florida. February 27, 2010.

“Recovery of An *Acropora* Reef Following Hurricane Ike Devastation, SE Caicos Platform.” 2<sup>nd</sup> Annual NCORE University-wide Coral Reef Forum, University of Miami, Virginia Key, Florida. August 23, 2010

### TEACHING

#### 26a. **Courses Taught:**

ENS 103-104 - Environmental Issues of South Florida  
Taught 1996, Spring 1998, Spring 1999.

ENS 492 - Field Study in Environmental Science  
Taught: Spring 2000, Fall 2001, 2002

FNS 180 - Evidence for and Societal Implication of Global Change (Freshman Seminar)  
Taught: 1991, 1992.

GSC 100 – Marine Geology of South Florida, part of Summer Scholar Program for High School Students.

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Taught: Summer of 1998, 1999, 2000.

GSC 105 – The Global Environment

Taught: Fall 2004

GSC 110 - Physical Marine Geology (A dual enrollment course taught at MAST Academy, Dade County Public Schools)

Taught: 1993, 1996.

GSC 111 – Historical Geology

Taught: 2003, 2006

GSC 120 - Environmental Geology

Taught Spring 1993, Fall 1993, Fall, 1994, Fall 1995, Spring 1996, Fall, 1996, Spring 1997, Fall 1997, Fall 1998, Fall 1999, Fall 2000.

GSC 160 - Historical Geology: Taught Spring 1993.

GSC 230 - Reef Systems through Time:

Taught Spring 1998, 1999, 2000, 2001, 2002, 2004, 2005, 2006, 2009, 2010.

GSC 231 - Field Study of Reef Systems Through Time

Taught: Spring Break 2000, 2001. 2004, 2009.

GSC 350 - Stratigraphy: Taught: 1992, 1994, 1995, 1996, 1997, 1998, 2004.

GSC 360 - Depositional and Diagenetic Systems:

Taught: Spring 1999, 2000, Fall 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009.

GSC 450 - Sedimentology

Taught: 1988, 1989, 1990, 1992, 1993, 1994, 1995, 1996, 1997, 1998.

GSC 482 (was 596) - Field Methods and Mapping:

Taught: 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010.

GSC 574; now 580-581 - Geology Summer Field Course

Taught: 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009.

GSC 574 - Geologic Studies in the Grand Canyon

Taught: 2007

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GSC 575 – Coastal Processes

Taught: 2008

MGG 511 - Sedimentation

Taught: 1972-1991.

MGG 541 - Field Evaluation of Fossil Platforms, Margins and Basins

Taught: 1978, 1980, 1981, 1984, 1985, 1986, 1987, 1988, 1991.

MGG 558 - Geology of Florida

Taught: Fall 1979, 1982, 1983, 1985, 1986.

MGG 584, 585 - Geology of Tropical Marine Environments

Taught: Summer 1979.

MGG 672 - Basin Analysis (with others)

Taught: 1979.

MGG 683 - Sediment Diagenesis

Taught: 1977, 1982, 1984, 1987, 1989.

MGG 684 - Environments of South Florida

Taught: 1981, 1984.

MGG 685 - Sediment Dynamics

Taught: 1981, 1983, 1984, 1985.

MGG 687 - Substrate Influence on Benthic Communities

Taught: 1977, 1987.

MSC 111 – Introduction to Marine Science. Taught: Fall 2002

MAST Academy - Marine Geology 1996, 1997.

## 27. Thesis and Dissertation Advising:

### Major Advisor for the Following Undergraduate Senior Thesis:

1997 Rodebaugh, Amy. Diatom Assemblages in a 100-Year Sediment Record from Whitewater Bay, South Florida.

1999 Kathrine A. Banner. Internal Architecture of Archaeocyathid Bioherms, Labrador, Canada, 64p.



## Exhibit 5.1

- 1999 Andrew Zachary Krug. Environmental Zonations Within a Platform Margin Reef, Lower Head, Newfoundland.
- 2000 Stacy Anderson. A Paleoenvironmental Analysis of the Key Largo Limestone.
- 2002 Matthew Brewer. Mangroves, Storms and Sea-Level: an air photo analysis of the past 70 years of coastal evolution in the Gopher Key Region, SW Florida.
- 2002 Katie Inderbitzen. A Sedimentary-Exhalatory Barite Deposit and Associated Chemosynthetic Bioherm, Aguathuna Quarry, Port au Port Peninsula, Newfoundland, Canada.
- 2002 Lauren Moyer. Diagenesis and Tectonic history of Cambro-Ordovician Sediments in a Fore-Arc Basin, Northwestern Newfoundland.
- 2002 Amy Sofge. Origin of Cavities in Lower Cambrian Archaeocyathid Reefs, Southeast Labrador.
- 2004 Kelly Jackson. Late Holocene Evolution of the Lower Shark River Discharge in response to a high-frequency sea level oscillation, Everglades National Park, Florida
- 2006 Katie Murray (Magna Cum Laude), Potential Effects of Increased Scour Depth on Chum Salmon Redds in the Gray's River, Washington. November, 2006
- 2007 Noelle Van Ee, Analysis of abrasion susceptibility of Bahamian sands proposed for placement on south Florida's beaches, in progress

### Major Advisor of the Following Masters of Science Theses:

- 1976 Barron, Eric J. Suspended Sedimentation Processes, Marco Island, Florida. M.S. Thesis, University of Miami, 182p.
- 1976 Warzeski, E. Robert. Growth History and Sedimentary Dynamics of Caesar's Creek Bank. M.S. Thesis, University of Miami, 195p.
- 1977 Dravis, Jeffrey J. Holocene Sedimentary Depositional Environments on Eleuthera Bank, Bahamas. M.S. Thesis, University of Miami, 386p.
- 1978 Bohlke, Brenda. Clay Fabric and Geotechnical Properties Associated with Crust Zones in the Mississippi Prodelta Deposits. M.S. Thesis, University of Miami, 95p.
- 1979 Harlem, Peter. Aerial Photographic Interpretation of the Historical Changes in North

## Exhibit 5.1

- Biscayne Bay, Florida: 1925-1976. M.S. Thesis, University of Miami, 152p.
- 1983 Craig, Genevieve. Holocene Carbonate Sedimentation in a Pleistocene Depression Adjacent to Key Largo. M.S. Thesis, University of Miami, 120p.
- 1984 Burton, Elizabeth Ann. X-ray Diffraction of Natural High and Low Mg Calcites. M.S. Thesis, University of Miami, 148p.
- Rossinsky, Victor, Jr. Sedimentation and Holocene History in the Loxahatchee River Estuary, Jupiter, Florida. M.S. Thesis, University of Miami, 247p.
- 1988 Waltz, Michael D. The Evolution of Shallowing-Upwards Reef to Oolite Sequences at the Leeward Margin of Caicos Platform, B.W.I. M.S. Thesis, University of Miami, 98p.
- 1989 Tagett, Mathew G. Stratigraphy, Nucleation and Dynamic Growth History of a Holocene Mudbank Complex, Dildo Key Mudbank, Western Florida Bay. M.S. Thesis, University of Miami, 210p.
- 1990 Huang, Holan. Holocene Environmental History in a Marginal Marine Area of the Everglades of South Florida. M.S. Thesis, University of Miami, 131p.
- 1991 Emerson, James D. Surficial Carbonate Facies of the Caicos Platform, British West Indies. M.S. Thesis, University of Miami, 183p.
- 1993 Frederick, Bruce. The Development of the Holocene Stratigraphic Sequence Within the Broad-Lostman's River Region, Southwest Florida Coast, M.S. Thesis, University of Miami, 173p.
- 1995 Bischof, Barberel. Aerial Photographic Analysis of Coastal and Estuarine Mangrove System Dynamics of the Everglades National Park, Florida, in Response to Hurricanes: Implications for the Continuing Sea-level Rise. M.S. Thesis, University of Miami, 135p. Plus Figures.
- 1996 Gelsanliter, Sarah. Holocene Stratigraphy of the Chatham River Region, Southwest Florida; with a Reevaluation of the Late Holocene Sea-level Curve, M.S. Thesis, University of Miami, 182p.
- 2001 Michaels, Brian A. Holocene Stratigraphy and Geomorphic Evolution of the Cape Sable Region, Southwest Florida: Evidence for Late Holocene Sea-level Dynamics, M.S. Thesis, University of Miami, 183p.
- 2003 Manne, Tiina. Archaeocyath Growth Morphology as a Reflection of Bioherm Form, Cavity Development and Life Habit, Newfoundland nad Labrador, Northeastern Canada, M.S. Thesis, University of Miami, 100 p. (awarded Rosenstiel School's Dean Prize for outstanding

## Exhibit 5.1

M.S. Thesis for 2002-2003)

2006 Christina Smith (Defended and completed, April, 2006).

Major Advisor for the following Ph.D. Dissertations:

- 1981 Nelson, Terry. The Nature of the General and Mass Sedimentary Processes on the Outer Shelf, Slope and Upper Rise, Northeast of Wilmington Canyon. Ph.D. Dissertation, University of Miami, 303p.
- 1982 Perlmutter, Martin. The Role and Recognition of Storm Deposits in the Subtidal Sediments of the Ten Thousand Islands, southwest Florida. Ph.D. Dissertation, University of Miami, 230p.
- 1984 Figueiredo, Alberto G., Jr. Submarine Sand Ridges: Geology and Development, New Jersey, U.S.A. Ph.D. Dissertation, University of Miami, 408p.
- 1987 Dominguez, Jose M.L. Quaternary Sealevel Changes and the Depositional Architecture of Beach-Ridge Strandplains Along the East Coast of Brazil. Ph.D. Dissertation, University of Miami, 288p.
- 1987 Meeder, John F. A Depositional Model of the Tamiami Formation of Southwestern Florida. Ph.D. Dissertation, University of Miami, v. 1, 433p.; v. 2, -748p.
- 1987 Parkinson, Randall. Holocene Sedimentation and Coastal Response to Rising Sea Level Along Subtropical Low Energy Coast, Ten Thousand Islands, Southwest Florida. Ph.D. Dissertation, University of Miami, 224p.
- 1989 Cottrell, Daniel J. Holocene Evolution of the Coast and Nearshore Islands, Northeast Florida Bay, Florida. Ph.D. Dissertation, University of Miami, 194p.
- 1990 Rossinsky, Victor Jr. Topographic, Vegetative and Climatic Controls on the Petrography and Geochemistry of Calcretes in the Bahamas and South Florida. Ph.D. Dissertation, University of Miami, 228p.
- 1991 Tedesco, Lenore P. Generation of Carbonate Fabrics and Facies by Repetitive Excavation and Infilling of Burrow Networks in Recent and Ancient Sequences. Ph.D. Dissertation, University of Miami, 434p.
- 1993 Briggs, Kevin B. High-frequency Acoustic Scattering from Sediment Interface Roughness and Volume Inhomogeneities. Ph.D. Dissertation, University of Miami, 143 p.
- 1998 Risi, J. Andrew. Event Sedimentation from Hurricane Andrew Along the Southwest Florida

# Exhibit 5.1

Coast. Ph.D. Dissertation, University of Miami, 198 p.

- 2007 Brigitte M. Vlaswinkel. Field Results and Physical Modeling of the Sediment Dynamics of a Channeled, Peritidal Coastal System in Southwest Florida, Ph.D. Dissertation, University of Miami, 303 p.

Member of Advisory Committee for the following graduate students:

Completed: Shirley Pomponi, Mark Palmer, James Rine, Mohammed Almasi, David Beach, Bernard Pierson, Zelinda Leao, Bill Corso, Charles Evans, Sue Markley, Stuart Williams, Sach Prasad, Pamela Ried, Charles Evans, Michael Westphall, Jorge Jiminez, Kathy Browne, Joshua Feingold, Michael Grammar, David Obdura, Carrie Kievman, Ken Lindeman, Symma Finn, Tony Poiriez, Xavier Jansen, Matt Bonicotti, Emily Bowlin.

## SERVICE

### 28. **University Committee and Administrative Responsibilities:**

RSMAS School Council 1984-1987

MGG Academic Committee 1990-1992

Chairman Search Committee for Paleoecologist, GSC 1993

Tenure Review Committee, College of Arts and Sciences, 1993-1996

Search Committee for Dean, School of Arts and Sciences, 1996-1997

Senate Committee on Rank, Salary and Terms of Employment 1997-1999

Chair, Department of Geological Sciences, September 1998-.

Interim Director, Institute for Interdisciplinary Tropical Science 2003-2004

Search Committee, Weeks Endowed Professorship 2005-2006

### 29. **Community Activities:**

Scoutmaster of Troop 322, Key Biscayne, Boy Scouts of America 1979-1987 and 1995-2001; asst. leader 2002-2006.

Member of Technical Advisory Committee to EPA and Munisport Dump Coalition on Munisport Toxic Waste Dump: 1989-2000.

Advisor to Key Biscayne Council and Village of Key Biscayne on shore management: 1989-

## Exhibit 5.1

1992. Member Technical Advisory Task Force on Beach Management: 1995- termination of Task Force in 1998. (including preparation of guidelines for future beach renourishment activities in 1998).

Scientific advisor to the City of Naples, Florida: on beach, lagoons and wetland management, 1978 and 1989-1990.

Judge at elementary, middle and high school science fair competitions: 1965-1995.

Advisor on Post-Hurricane Resource Inventory and Recovery Strategy to Everglades National Park, Biscayne National Park, Cape Florida Park, Dade County Parks, and coastal citizen groups and individuals.

Technical Advisor to South Florida Water Management District: 1997-present.

Mentor to Miami-Dade County High School Interns (two of which have achieved semifinalist in Westinghouse Science Talent Search), 1993-present.

Advisor on forensic geology to Miami Homicide, Miami-Dade States Attorney Office and Federal Justice Department, 1998-2000.

Co-Chair Biscayne Bay Initiative Science Survey Team, 1999-2001. Coordination and preparation of science synthesis, issues, and recommendations to State of Florida Legislature.

Invited contributor to scientific design of South Florida Management District's RECOVER (research and monitoring) design for the Comprehensive Everglades Restoration Plan, 2001-2005.

Invited Advisor to Everglades National Park, Coastal Instability on southwest coast of Everglades National Park, 2002.

Invited Advisor to Big Cypress National Preserve on Recreational Off-road Management Plan and construction of defined vehicle trails, 2002.

Invited member and leader of science evaluation group, Miami-Dade County's 'Climate Change Adaptation 'Task Force' and now Committee, a committee of the Miami-Dade County Commissioners, 2003 – 2007.

Co-Chair, Science and Technology Committee, Miami-Dade County Climate Change Task Force of the Miami Dade County Commissioners (2007-present).

Invited speaker/advisor to Florida legislative committees on the Everglades (2007).

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Invited speaker to White House Council on Environmental Quality concerning relocation of Mississippi River outlet (2009).