

**WILLIAM T. ANDERSON JR.**  
*Curriculum Vitae*

**AREAS OF SPECIALTY**

- Stable Isotope Biogeochemistry
- Global Change/Earth System Science
- Paleoclimatology/Paleolimnology

**PERSONAL INFORMATION**

Address: Earth Sciences Department  
Florida International University  
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Miami, FL 33199  
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Born: 26 July, 1970 - Kansas City, USA

**EDUCATION**

Swiss Federal Institute of Technology (ETH-Zentrum), Doctor of Natural Sciences (Doktor der Naturwissenschaften), January 2000. Thesis topic: Calibration of high-resolution terrestrial isotopic records of recent climatic change: Implications for understanding paleo-atmospheric circulation changes. Thesis advisors Prof. J.A. McKenzie and Dr. S.M. Bernasconi.

Syracuse University: M.S. Geology, September, 1995. Thesis topic: Deglacial-Holocene stable isotope stratigraphy of Seneca Lake, New York: Implications for climate change and the Hypsithermal. Thesis advisor: Prof. H.T. Mullins.

University of Kansas: B.A. Geology, July, 1992. Advisor Dr. J.D. Walker.

**FULL-TIME ACADEMIC EXPERIENCE**

Associate Professor, August 2006 to present, Earth Sciences Dept./Southeast Environmental Research Center, Florida International University, Miami.

Assistant Professor, January 2000 to August 2006, Earth Sciences Dept./Southeast Environmental Research Center, Florida International University, Miami.

Director of the SERC Stable Isotope Laboratory, January 2000 to present, Florida International University, Miami.

**PART-TIME ACADEMIC EXPERIENCE**

Stable Isotope Laboratory, Geologisches Institut, ETH-Zentrum - *Research Assistant*, October 1995 to December 1999. Assisting in general laboratory operation and method development with continuous-flow IRMS for oxygen isotopic analyses with J.A. McKenzie and S.M. Bernasconi.

Swiss Federal Institute for Forest, Snow, and Landscape Research (WSL) - *Research*, June-August, 1996, Tree core recovery and ring width evaluation with F. Schweingruber.

Limnological Research Center, University of Minnesota, Research Training Group - *Travelling Fellowship/Research Assistant*, Fall/94, Stable isotopic analysis of lake sediments from Seneca Lake, NY for paleoenvironmental/paleolimnologic evaluation with Emi Ito.

Department of Earth Sciences, Syracuse University, Fall/92 to Spring/95 (break for fellowship at the LRC), *Teaching Assistant*: Introduction to Geology Laboratory, Mineralogy Laboratory, Environmental Geology.

## EMPLOYMENT RECORD AT FIU

Rank: Assistant Professor, Dates: January, 2000 to August 2006

Rank: Associate Professor, Dates: August, 2006 to present

## PUBLICATIONS IN DISCIPLINE

**Peer Reviewed Articles in Professional Journals** - ISI CI: 225, ACI: 11.84 (as of 9/16/2008)

Saurer, M., Cherubini, P., Reynolds-Henne, C.E., Treydte, K.S., **Anderson, W.T.**, Siegwolf, R., 2008, An investigation of the common signal in tree-ring stable isotope chronologies at temperate sites: Journal of Geophysical Research, *in press*.

\*Wozniak, J.R., Childers, D.L., **Anderson, W.T.**, Rudnick, D.T., and Madden, C.J., 2008, An in situ mesocosm method for quantifying nitrogen cycling rates in oligotrophic wetlands using <sup>15</sup>N tracer techniques: Wetlands, v. 28, n. 2, p. 502-512.

Muller, J., Kylander, M., Wüst, R.A.J., Weiss, D., Martinez-Cortizas, A., LeGrande, A. N., Jennerjahn, T., Behling, H., **Anderson, W.T.**, Jacobson, G, 2008, Possible evidence for wet Heinrich phases in tropical NE Australia: The Lynch's Crater deposit: Quaternary Science Reviews, v. 27, p. 468-475.

Sternberg, L.S.L., Pinzon, M.C., Vendramini, **Anderson, W.T.**, Jahren, H., and Beuning, K., 2007, Oxygen isotope ratios of cellulose-derived phenylglucosazone: An improved paleoclimate indicator of environmental water and relative humidity: Geochimica et Cosmochimica Acta, v. 71, p. 2463-2473.

Sternberg, L., Pinzon, M.C., **Anderson, W.T.**, and Jahren, A.H., 2006, Variation in oxygen isotope fractionation during cellulose synthesis: Molecular and biosynthetic effects: Plant, Cell and Environment, v. 29, p. 1881-1889.

\*Evans, S.L., **Anderson, W.T.**, and Jochem, F.J., 2006, Spatial variability in Florida Bay particulate organic matter composition: combining flow cytometry with stable isotope analyses: Hydrobiologia, v. 569, p. 151-165.

Fourqurean, J.W., Escoria, S.P., **Anderson, W.T.**, and Zieman, J., 2005, Spatial and seasonal variability in elemental content,  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  of *Thalassia testudinum* from south Florida and its implications for ecosystem studies: Estuaries, v. 28, n. 3, p. 447-461.

**Anderson, W.T.**, Sternberg, L., Pinzon, M.C., Gann-Troxler, T., Childers, D.L., and Duever, M., 2005, Carbon isotope composition of cypress trees from South Florida and changing hydrologic conditions: Dendrochronologia, v. 23, n. 1, p. 1-10.

Medina, E., Francisco, M., Sternberg, L., and **Anderson, W.T.**, 2005, Isotopic signatures of organic matter in sediments of the continental shelf facing the Orinoco Delta: Possible contribution of organic carbon from savannas: Estuarine, Coastal and Shelf Science, v. 63, no. 10, p. 527-536.

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\* Student under the supervision of or co-supervised by Anderson

- McFadden, M. A., Mullins, H.T., Patterson, W.P., and **Anderson, W.T.**, 2005, Multi-proxy approach to long- and short-term Holocene climate-change: Evidence from Eastern Lake Ontario: Journal of Paleolimnology, v. 33. no. 3, p. 371-391.
- McFadden, M. A., Mullins, H.T., Patterson, W.P., and **Anderson, W.T.**, 2004, Paleoproductivity of eastern Lake Ontario over the past 10,000 years: Limnology and Oceanography, v. 49, no. 5, p. 1570-1582.
- Kieckbusch, D.K., Koch, M.S., Serafy, J.E., and **Anderson, W.T.**, 2004, Trophic linkages of primary producers and consumers in fringing mangroves of tropical lagoons: Bulletin of Marine Science, v. 74, no. 2, p. 271-285.
- Mahaffey, C., Williams, R.G., Wolff, G.A., and **Anderson, W.T.**, 2004, Physical Supply of Nitrogen to Phytoplankton in the Atlantic Ocean: Global Biogeochemical Cycles, v. 18, GB1034.
- Anderson, W.T.**, and Fourqurean, J.W., 2003, Intra- and interannual variability in seagrass carbon and nitrogen stable isotopes from south Florida, a preliminary study: Organic Geochemistry, v. 34, p. 185-194.
- Mahaffey, C., Williams, R.G., Wolff, G.A., Mahowald, H., **Anderson, W.T.**, Woodward, M., 2003, Sources of new nitrogen to the surface Atlantic Ocean: Geophysical Research Letters, 30 (6): art. no. 1300.
- Sternberg, L.S.L., **Anderson, W.T.**, and Morrison, K., 2003, Separating autotrophic and heterotrophic <sup>18</sup>O isotopic signals in tree ring cellulose: Geochimica et Cosmochimica Acta, v. 67, no. 14, p. 2561-2566.
- Anderson, W.T.**, Bernasconi, S.M., McKenzie, J.A., 2002, Model evaluation for reconstructing the oxygen isotopic composition in precipitation from tree ring cellulose over the last century: Chemical Geology, v. 182, no 2-4, p. 121-137.
- Rudnicki, M.D., Wilson, P.A., and **Anderson, W.T.**, 2001., Assessing the effects of diagenesis and sediment properties on pore fluid profiles, Blake Nose, ODP Leg 171: Paleoceanography, v.16 ,no. 6, p. 561-573
- Anderson, W.T.**, Bernasconi, S.M., McKenzie, J.A., and Saurer, M., 1998, Oxygen and carbon isotopic record of climatic variability in tree-ring cellulose (*Picea abies*): An example from central Switzerland (1913-1995): Journal of Geophysical Research, v. 103, no. D24, p. 31,625-31,636.
- Anderson, W.T.**, Mullins, H.T., and Ito, E., 1997, Stable isotope record from Seneca Lake, New York: Evidence for a cold paleoclimate following the Younger Dryas: Geology, v. 25, no. 2, p. 135-138.

### **Chapters in Books**

- Mullins, H.T., Hinchey, E.J., Wellner, R.W., Stephanes, D.B., **Anderson, W.T.**, Dwyer, T.R., and Hine, A.C., 1996, Seismic stratigraphy of the Finger Lakes: A continental record of Heinrich event H-1 and Laurentide ice sheet instability, In Mullins, H.T., and Eyles, N., eds., *Subsurface Geologic Investigations of New York Finger Lakes: Implications for Late Quaternary Deglaciation and Environmental Change*: Boulder, Colorado, Geological Society of America Special Paper 311, p. 1-35.

### **Government Reports**

- Saunders, C.J., Childers, D.L., **Anderson, W.T.**, Lynch, J.A., and Jaffe, R., 2007, Understanding *Cladium jamaicense* dynamics over the last century in ENP using simulation modeling and paleoecological data – 24 month Report. Everglades National Park, National Park Service (#EVER-00278), 47p.
- Anderson, W.T.**, Gaiser, E.E., and Scinto, L.J., 2006, Lake Harney Sediment Accumulation and Past Water Quality – Final Report. St. Johns River Water Management District (SH45213), 132p.

**Anderson, W.T.**, Scinto, L.J., Gaiser, E.E., Carroll, B., Quillen, A., and Haberer, J., 2004, Lake Monroe Sediment Accumulation and Past Water Quality, Final Report. St. Johns River Water Management District (SG452AA), 196 p.

## PRESENTED PAPERS AND ABSTRACTS

- Drayer, C.L., Swart, P.K., Altabet, M.A., **Anderson, W.T.**, Lamb, K.A., Evans, S., Sanchez, M., and Bellmund, S., 2008, Nitrogen cycling in Biscayne Bay Florida: Ocean Sciences Meeting, March 2-7, Orlando, Florida, [www.aslo.org/orlando2008](http://www.aslo.org/orlando2008).
- Anderson W.T.**, Saunders, C., Sternberg, L., Childers D.L. and Newman, S., 2007, Carbon Isotope Records From Wetland Plants, and Implications for Paleohydrological Reconstructions: *Eos Trans. AGU*, 88(52), Fall Meet. Suppl. Abstract PP43B-1250.
- Ariztegui, D, **Anderson W.T.**, and Bianchi, M.M., 2006, Reconstructing Late Holocene Glacial Fluctuations in Northern Patagonia (Argentina) Using the Oxygen Isotopic Composition of Lacustrine Cellulose: *Eos Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract PP31C-1765.
- Sternberg, L.S.L., Pinzon, M.C., Vendramini, **Anderson, W.T.**, Jahren, H., and Beuning, K, 2006, Intramolecular oxygen isotope ratios of a global stem cellulose sample set: insight into a climate proxy: *Eos Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract B11E-06.
- Drayer, C.L., Lamb, K.A., Swart, P.K., Altabet, M.A., **Anderson, W.T.**, and Bellmund, S., 2006, Nitrogen Isotopic Study of Benthic Macroalgae and Seawater in Biscayne Bay, Florida: *Eos Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract B13A-1056.
- Evans, S.L., **Anderson, W.T.**, Jochem, F.J. 2005. Inter-annual Variability in Stable Isotope Signatures of Size-Fractionated POM from South Florida: Nutrient and Productivity Controls. Florida Bay and Adjacent Marine Systems Science Conference; Program & Abstracts p. 99.
- Sternberg, L., Jahren, H., **Anderson W.T.**, and Pinzon, M.C., 2005, Limits on the Natural Oxygen-18 Abundance of Cellulose: Intra-molecular Patterns: *Eos Trans. AGU*, 86(52), Fall Meet. Suppl. Abstract PP11A-1424.
- Anderson, W.T.**, Sternberg, L., Pinzon, M.C., Gann-Troxler, T., Childers, D.L., and Duever, M., 2005, Carbon isotopic composition of cypress trees from South Florida and changing hydrologic conditions: *AGU*, 86(52), Fall Meet. Suppl. Abstract PP11A-1427.
- \*Evans, S.L., **Anderson , W.T.**, Jochem, F.J., and Fourqurean, J.W., 2004, Interannual variability in carbon and nitrogen stable isotope signatures of size-fractionated POM from the South Florida coastal zone: FL: *Eos Trans. AGU*, 85(47), Fall Meet. Suppl. Abstract OS51C-1323.
- \*Carroll, B.P., Quillen, A., **Anderson, W.T.**, Gaiser, E.E., Scinto, L.J., and Engstrom, D.R., 2004, Understanding the recent paleolimnological record from Lake Monroe, FL: *Eos Trans. AGU*, 85(47), Fall Meet. Suppl. Abstract PP43A-0594.
- Wozniak, J.R., **Anderson, W.T.**, Childers, D.L., Madden, C.J., and Rudnick, D., 2004, Characteristics of the Nitrogen Cycle in Southern Everglades Marshes: <sup>15</sup>N Tracer and Natural Abundance Experiments: *Eos Trans. AGU*, 85(47), Fall Meet. Suppl. Abstract H41D-0334.
- Anderson, W.T.**, Sternberg, L.O., and Pinzon, M.C., 2003, Wetland ecosystem hydroperiods: Long-term variability reconstructed using isotopic signatures from tree rings: *Eos Trans. AGU*, 84(46), Fall Meet. Suppl. Abstract B12F-08.
- Anderson. W.T.**, Grissino-Mayer, H.D., Evans, S.L., Sternberg, L., Hernandez, R., Pinzon, M.C., and Kirby, M.E, 2003 Oxygen isotopic records in tree rings as indicators of climatic and atmospheric circulation changes from Europe, North America, and South America: AAG Annual Meeting Abstracts, March 5 to 8, p. 13.

- \*Evans, S.L., **Anderson, W.T.**, Fourqurean, J. W., Jaffe, R., Gaiser, E.E. Collins, L.S., and Holmes, C.W., 2002, Carbon and nitrogen stable isotope composition of OM from Florida Bay, the initial results of a paleoenvironmental seagrass reconstruction: *Eos Trans.* AGU, 83(47), Fall Meet. Suppl., Abstract PP71B-0410.
- McKenzie, J.A., **Anderson, W.T.**, Teranes, J.L., and S M Bernasconi, 2002, Has the relationship between the oxygen isotopic composition of precipitation and air temperature remained constant over the last century? An example from central Europe: *Eos Trans.* AGU, 83(47), Fall Meet. Suppl., Abstract PP52A-0318.
- Anderson, W.T.**, \*Evans, S.L., \*Pinzon, M.C., and Grissino-Mayer, H.D., 2002, Oxygen isotope records from semi-tropical trees as high-resolution indicators of recent climate change, from South Florida to Brazil: *Eos Trans.* AGU, 83(47), Fall Meet. Suppl., Abstract PP52A-0317.
- Kirby, M.E., **Anderson, W.T.**, Mullins, H.T., and Burnett, A., 2002, A proposed link between atmospheric circulation and stable oxygen isotope values from tree-ring cellulose, Fayetteville Green Lake, New York: *Eos Trans.* AGU, 83(47), Fall Meet. Suppl., Abstract PP52A-0316.
- Sternberg, L. d, **Anderson, W.T.**, and Morrison, K, 2002 Teasing cellulose isotopic signals apart by chemical methods: *Eos Trans.* AGU, 83(47), Fall Meet. Suppl., Abstract PP52A-0315.
- Anderson, W.T.**, McFadden, M.A., Mullins, H.T., and Patterson, W., 2002, 10,000 year nitrogen isotope record from Lake Ontario, understanding carbon and nitrogen dynamics from a paleo-perspective: *Geochimica et Cosmochimica Acta* (Special Supplement, Abstracts of the 12<sup>th</sup> Annual V.M. Goldschmidt Conference, Davos, Switzerland, Aug. 18-23, 2002) p. A21.
- Mead, R.N., Evans, S.L., **Anderson, W.T.**, and Jaffe, R., 2002, Spatial and Temporal Variability of Stable Carbon and Nitrogen Isotopes of Suspended Particulate Organic Matter in a Small, Tidal Estuary from Everglades National Park: *Eos Trans.* AGU, 83(19), Spring Meet. Suppl., Abstract H31A-03.
- McFadden M.A., Mullins H.T., Patterson, W.P., **Anderson, W.T.**, Stewart, D.J., 2002, Lake Ontario primary productivity over the last 17,000 years: evidence for unprecedented eutrophication during historic times: accepted at the GLRC conference at SUNY-ESF, Syracuse, NY.
- Anderson, W.T.**, Evans, S.L., da Silva, M.L., Wagener, K., and Grissino-Mayer, H., 2001, Isotope-Dendrochronological Investigation of Tropical Trees from Brazil: A preliminary analysis: *Eos Trans.* AGU, 82(47), Fall Meet. Suppl., Abstract B42A-0127.
- Beuning, K.R. and **Anderson, W.T.**, 2001, Understanding Cellulose-Water Oxygen Isotopic Fractionation in Tropical African Lakes: Implications for Paleoclimatic and Paleohydrologic Reconstruction: *Eos Trans.* AGU, 82(47), Fall Meet. Suppl., Abstract PP22A-0520.
- McKenzie, J.A., Teranes, J.L., and **Anderson, W.T.**, 2001, Interpreting Oxygen and Carbon Isotope Signals in Lacustrine Carbonates Using Case Studies from Swiss Lakes: A Tribute to Kerry Kelts: *Eos Trans.* AGU, 82(47), Fall Meet. Suppl., Abstract PP21C-09.
- Fourqurean, J.W. and **Anderson, W.T.**, 2001, Interannual variability in seagrass carbon and nitrogen stable isotopes from the Florida Keys National Marine Sanctuary, a preliminary study: *Eos Trans.* AGU, 82(47), Fall Meet. Suppl., Abstract OS51B-0478.
- Anderson, W.T.**, and Fourqurean, J.W., Spatial and temporal patterns of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  from seagrass in South Florida, accepted to the V.M. Goldschmidt Conference, Hot Springs Virginia, May 20-24, 2001.
- Ariztegui, D., **Anderson, W. T.** and Bianchi, M. M., 2000, Lake Mascardi record of Holocene glacier variations at 41°S. 31st International Geological Congress Special Publication. Rio de Janeiro, Brazil (CD-rom).

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\*Students under the supervision of Anderson

- Anderson, W.T.**, Teranes, J.L., Bernasconi, S.M., and McKenzie, J.A., Validation of high-resolution terrestrial isotopic reconstruction of paleo-precipitation: A tree ring and lake sediment comparison, EUG 10, Strasbourg, March 28 – April 1, 1999.
- Anderson, W.T.**, Bernasconi, S.M., and McKenzie, J.A., 1998 Constraining recent environmental changes through the reconstruction of the stable isotopic composition of precipitation from central: Europe (1913-1995): A tree ring approach, , supplement EOS Transactions AGU, v. 79, no. 45 p. 371.
- Beuning, K.R.M. and **Anderson, W.T.**, 1998, Calibration of the oxygen isotope fractionation factor during cellulose synthesis in aquatic algae and plants of tropical East Africa, suppliment EOS Transactions AGU, v. 79, no. 45 p. 521.
- Bernasconi, S.M. and **Anderson, W.T.**, 1998, Determination of oxygen isotopic composition of inorganic and organic substances by EA-pyrolysis-mass spectrometry: A cross calibration of organic compounds, nitrates, carbonates, and sulfates, supplement EOS Transactions AGU, v. 79, no. 45 p. 262-263..
- Anderson, W.T.**, Ariztegui, D., Bianchi, M.M., Bernasconi, S.M., and McKenzie, J.A., Constraining Holocene Glacial Fluctuations in Northern Patagonia - A Lacustrine Sedimentary Organic Matter Approach, the 6th Latin American Congress on Organic Geochemistry, Margarita Island, Venezuela, October 18 to 21, 1998.
- Wilson, P.A., Norris, R.D., and **Anderson, W.T.**, Low latitude Cretaceous sea surface temperatures from Blake Nose, 6th International Conference on Paleoceanography, Lisbon, Portugal, August 23-28, 1998.
- Wilson, P.A., Norris, R.D., and **Anderson, W.T.**, 1998, Low latitude Cretaceous sea surface temperatures from Blake Nose, supplement EOS Transactions AGU, v. 79, no. 12 p. 170.
- Anderson, W.T.**, Bernasconi, S.M., and Mckenzie, J.A., 1997, Stable isotopic response of tree ring cellulose to climatic variability: A recent (1913-1995) record from central Switzerland: supplement EOS Transactions AGU, v. 78, no. 46 p. 36.
- Anderson, W.T.**, Teranes, J., Mckenzie, J.A., Bernasconi, S.M., 1996, Response of terrestrial stable isotopic signals to recent North Atlantic climatic variability as revealed in lacustrine varves and tree-ring records: supplement EOS Transactions AGU, v. 77, no. 46 p. 31.
- Anderson, W.T.**, Mullins, H.T., and Ito, E., Stable isotope record of environmental instability during the Holocene Hypsithermal, Finger Lakes, New York State, the First SEPM Congress on Sedimentary Geology, St. Petersburg, Florida, August 13-16, 1995.
- Anderson, W.T.**, Mullins, H.T., and Ito, E., Late-Glacial to middle Holocene carbonate and stable isotope record from Seneca Lake, NY: Implications for the timing and magnitude of environmental change, First SEPM Congress on Sedimentary Geology, St. Petersburg, Florida, August 13-16, 1995.
- Mullins, H.T., Wellner, R.W., **Anderson, W.T.**, Duration of Heinrich event H-1: Evidence from New York Finger Lakes, First SEPM Congress on Sedimentary Geology, St. Petersburg, Florida, August 13-16, 1995.
- Wellner, R.W., Mullins, H.T., Dwyer, T.R., and **Anderson, W.T.**, Stratigraphic evidence for late glacial-Holocene lake level fluctuations and paleoclimates in the Finger Lakes Region, central New York state, 13<sup>th</sup> meeting of the American Quaternary Association, Data and models in Quaternary research, University of Minnesota, Minneapolis, June 19-22, 1994.

#### INVITED SEMINARS AND SYMPOSIA

- 9/10/2008      Stable isotope composition of plants from South Florida – Understanding changes in water level, Dendro-Science Research Group, WSL, Birmensdorf, Switzerland.

- 10/25/2007 Stable Isotopes of OM as proxy-records of paleoclimate change, Earth Sciences Dept., Florida International University, Miami.
- 5/15/2007 Oxygen and carbon isotopes in plants and reconstructing changes in hydrology, Rosentiel School of Marine and Atmospheric Science (RSMAS), Miami.
- 11/9/2006 Stable isotopic records from trees and plants in sub-tropical settings, understanding the roles of biogeochemistry and climate, Department of Earth and Planetary Sciences, University of Tennessee.
- 10/22/2004 Stable isotopic records in tree rings as indicators of the climatic and paleohydrologic changes in semi-tropical settings, James Cook University, Queensland, Australia.
- 10/06/2003 Isotopes in organic matter - O, D stored in lake sediment organic matter and tree rings, Earth Sciences Dept., University of Geneva (CH).
- 10/07/2003 Carbon and nitrogen isotopes in OM, Earth Sciences Dept., University of Geneva (CH).
- 2/18/2003 Plant carbon-water relationships - an isotopic understanding using carbon and oxygen stable isotopes, RSMAS, Miami, February 18, 2003.
- 10/03/2002 Advances and concerns about high resolution terrestrial isotopic reconstructions of recent past climate change, examples from Europe, and South & North America, University of Florida, Gainesville.
- 5/02/2002 High-resolution terrestrial isotopic reconstructions of recent past climate change, examples from Europe, South America, and North America, Dept. of Biology, University of Louisiana at Lafayette.
- 3/25/2002 Advances and concerns about high resolution terrestrial isotopic reconstructions of recent past climate change, examples from Europe, South American, and North American, GEOTOP and McGill University, Montreal.
- 2/02/2001 Approaches, calibration and validation of high resolution terrestrial isotopic reconstruction of paleo-precipitation using oxygen isotopes in organic matter – Trees and Lakes, Dept. of Earth Sciences, Syracuse University.
- 10/23/2000 High-Resolution oxygen isotopic record of recent climatic change from continental archives: Reconstructing the isotopic composition of precipitation, Dept. of Geology, University of South Florida, Tampa.
- 3/20/2000 Oxygen isotopic records of recent climatic change from terrestrial and lacustrine archives: Approaches, applications, and calibration, RSMAS, University of Miami, Miami.
- 4/15/1999 New approaches and applications of oxygen isotopes in organic matter for paleohydrologic and climate change reconstructions, Southeast Environmental Research Center, Florida International University, Miami.
- 4/12/1999 *Same talk as above*, Dept. of Geosciences, University of Missouri, Kansas City.
- 3/04/1999 New approaches and applications of stable oxygen isotope geochemistry for paleohydrologic/paleoenvironmental reconstructions from high-resolution proxy records (tree rings and lakes)Le Centre de Géochimie de al Surface, Ecole et Observatoire des Sciences de la Terre, University of Strasbourg, France.
- 1/26/1999 New approaches and applications of continuous flow isotope ratio mass spectrometry (CF-IRMS) to biogeochemistry, Swiss Federal Institute of Environmental Science and Technology (EAWAG), Limnological Research Center, Kastanienbaum (CH).

- 1/27/1996 Deglacial-Holocene stable isotope stratigraphy of Seneca Lake, New York state: Implications for climate change and the Hypsithermal, Swiss Sed Meeting, University of Fribourg, Fribourg (CH).
- 3/08/1996 Oxygen stable isotope record of Holocene climatic instability: Northeastern USA, Swiss Quaternary Group, University of Bern, Bern (CH).

## WORK IN PROGRESS

### Research

**Anderson, W.T.**, Scinto, L.J., Gaiser, E.E., Carroll, B., Quillen, A., Keller T.A. and Haberer, J, *in progress*, Paleolimnological investigation of Lake Monroe and Lake Harney in the St. Johns River Basin, Journal of Paleolimnology.

\***Evans, S.L.**, Anderson, W.T., Jochem, F.J., Fourqurean, J.W. *in prep.*, Inter-annual Variability in Carbon and Nitrogen Stable Isotope Signatures of Size-Fractionated POM from the South Florida Coastal Zone. (in preparation): Marine Ecology Progress Series.

Kirby, M.E., **Anderson, W.T.**, Patterson, W.P., Burnett, A.W., and Mullins, H.T., *in progress*, Atmospheric circulation control on tree-ring  $\delta^{18}\text{O}$  cellulose values from the Northeastern United States, Journal of Geophysical Research.

Cornett, V.C., W.T. Anderson, M.M. Menchaca and J.W. Fourqurean, *in prep.*,  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  isotopic composition of Florida Manatee (*Trichechus manatus latirostris*) hairs in relation to diet: Hydrobiologia.

## FUNDED RESEARCH

**Funding breakdown (2000 to 2008)** - as *PI*: \$626k, and as *co-PI*: \$559k, Total: \$1.19 million

2008 SJRWMD – Assessment of the cycling and compartmentalization of nitrogen and phosphorus in saturated soils, sediments and the water column in Lake Jesup, Florida, USA (#25044), **PI Anderson**, with Scinto, Thomas and Fugate: \$195k

NSF LTER FCE II - Climate and Disturbance Group (DBI-0620409), sub-account-PI Anderson, \$38k (yr 2 funding).

Kauffman Foundation Professor Award – Entrepreneurial Academy, FIU. Development and marketing of novel biogeochemical isotopic methods for the Stable Isotope Laboratory (University Recharge Center) as a tool for environmental managers and consultants for near shore marine and fresh water ecosystems total: \$15k

2007 NSF LTER FCE II – Supplemental funding for LIDAR investigation of both SRS and TS transects, co-PIs **Anderson** and Zeng (IHRC FIU), \$10k.

St. Johns River Water Management District (SJRWMD) – Assessment of N-fixation in Lakes Monroe and Jessup FL (SK42812), **co-PI Anderson** with Scinto (*lead PI*), Ikenaga, Sinigalliano, Thomas. \$250k.

NSF LTER FCE II - Climate and Disturbance Group (DBI-0620409), sub-account-PI Anderson, \$47k (yr 1 funding).

2006 Department of the Interior, Biscayne National Park. Supplemental Sampling of Nitrogen Compounds for Determination of Non-Degradation Outstanding Florida Water Nutrient Criteria

- in Biscayne Bay. Collaborative project with RSMAS. FIU **PI Anderson**, \$30k (FIU's budget). Dates 1/1/06 to 9/30/07.
- 2005 Department of the Interior, Critical Ecosystem Studies Initiative (CESI) - Understanding *Cladium jamaicense* Dynamics over the last century in Everglades National Park, WC-3B using simulation modeling and paleoecological data, **co-PI Anderson** with Saunders, Childers, and Jaffe, \$115k.
- 2004 St. Johns River Water Management District (SJRWMD) – Lake Harney sediment accumulation and past water quality (SH45213), **PI Anderson** with Gaiser and Scinto, \$94k.
- Provost's Office and FIU Foundation Summer Research Competition (2004) - A New Tool for Reconstructing Past Water Levels in South Florida Wetlands: Implications for the Greater Everglades Restoration, **PI Anderson**, \$5k
- Australian Research Council, Research Grant – Drought, El Nino and Climate Change in Queensland over the last 200,000 years: The Lynch Crater Lake Record (**co-PI Anderson** with Wust, James Cook Uni. and Kershaw, Monash Uni.), Project ID# DP045151565, 300k, (about \$30k for Anderson).
- 2003 SJRWMD - Sediment nutrient characteristics and paleolimnological reconstruction of Lake Monroe, Florida, USA (SG452AA), **PI Anderson** with Gaiser and Scinto, \$131k.
- 2002 American Chemical Society – Petroleum Research Fund - South Florida Marine Stable Isotope Time Series: Understanding nitrogen and carbon isotopic signals from organic matter in modern systems with implications for geologic records (ACS PRF-38095-G2). **PI Anderson**, \$35k.
- NSF Research Grant to Earth Sciences (EAR) – Geology and Paleontology – The Seagrass History of Florida Bay Reconstructed from Integrating Micropaleontological and Geochemical Proxies (EAR-0126024, **co-PI Anderson** with Collins, Jaffe, and Fourqurean). \$154k.
- Provost's Office and FIU Foundation Summer Research Competition (2002) - A New Approach for Understanding Nitrogen and Carbon Cycling in the South Florida Marine System – Introducing the South Florida Marine Stable Isotope Time Series. **PI Anderson**, \$5k.
- 2001 Extension of NSF ATM-0086276, to continue the project.
- 2000 Grants-In-Aid Award from the Faculty Development Review Panel, College of Arts and Sciences, FIU. **PI Anderson**, \$1k.
- NSF Research Grant to Atmospheric Sciences (ATM) - Paleoclimate Program - Isotope-Dendrochronological Investigation of Tropical Trees From Brazil: A New High-Resolution Paleoclimate Archive (ATM-0086276, **PI Anderson**). \$30k.

## TEACHING

### Courses Developed

- 2003 to 2004 **GLY 3882 Environmental Geology of the Florida Keys Workshop.** This workshop is a field based course that will be taught on location in the FL Keys. The students will be working from the Keys Marine Lab on Long Key, where the boats are located for the marine portion of the trip (outer reef and FL Bay).
- GLY 5195 Topics in Paleoclimatology.** This graduate class focuses on broad topics in paleoclimatology, including: climate models, Quaternary climates, dating methods, and pre-Quaternary climates.
- 2000 to 2001 **GLY 5266 Stable Isotope Biogeochemistry.** This graduate class focuses on understanding stable isotopic methods and approaches for understand biogeochemical cycles. Students from Biology, Chemistry and the Earth Sciences Dept. have enrolled for this class.

## **Courses Taught**

2008-2009	GLY 1010 Introduction to Earth Sciences
2007-2008	GLY 5266 Stable Isotope Biogeochemistry OCE 3014 Oceanography
2006-2007	GLY 3882 Environmental Geology of the Florida Keys OCE 3014 Oceanography GLY 4730 Marine Geology
2005 to 2006	GLY 3882 Environmental Geology of the Florida Keys GLY 5266 Stable Isotope Biogeochemistry GLY 3030 Environmental Geology
2004 to 2005	GLY 3882 Environmental Geology of the Florida Keys GLY 1010 Introduction to Earth Sciences GLY 5195 Topics in Paleoclimatology GLY 6910 Supervised Research
2004 to 2003	BSC 3669L UMEB Lab GLY 5266 Stable Isotope Biogeochemistry GLY 3039 Environmental Geology GLY 4910 and 6910 Supervised Research
2003 to 2002	BSC 3669L UMEB Lab GLY 3039 Environmental Geology (both Fall and Spring semesters) GLY 4910 and 6910 Supervised Research
2002 to 2001	GLY 5266 Stable Isotope Biogeochemistry GLY 3039 Environmental Geology GLY 4910 and 6910 Supervised Research GLY 5931 Graduate Student Seminar GLY 6931 Advance Graduate Student Seminar
2001 to 2000	GLY 5266 Stable Isotope Biogeochemistry GLY 3039 Environmental Geology GLY 4910 Supervised Research GLY 5931 Graduate Student Seminar

## **STUDENTS**

### **Past Undergraduate Students**

2005 to 2007	<u>Carrie Rebenack</u> (co-supervised with R. Hickey-Vargas), Undergraduate work: Stable Isotope Analyses of OM from Lake Harney FL over the last Century. Sponsored by a NOAA ESRIP undergraduate internship.
2005 to 2006	<u>Oriana Perez</u> , Undergraduate work: Sedimentological analyses of cores from Lake Harney, FL and WCA 3b. Internship sponsored by NSF GEOSCOPE program. <u>Jonathan la Paz</u> (co-supervised with G. Draper), Undergraduate work: Thinsection and isotopic analyses of mangrove-seagrass-hard-ground from South Florida. Sponsored by NSF GEOSCOPE program.
2003 to 2004	<u>Rommy Lahera</u> , Undergraduate Work: Metal analyses of sediment from Lake Monroe, FL over the last 100 years. Sponsored by a NOAA ESRIP undergraduate internship. Now applying for an MS position at USF.
2003 to 2002	<u>Maria Camila Pinzon</u> , Undergraduate Work: Carbon Isotopic Investigation of Wetland Trees From the Florida Everglades. Sponsored by the FCE-LTER and UMEB program at FIU.

2001 to 2002 *Reena Hernandez*, Undergraduate Work: Carbon Isotope Composition From Slash Pine from Big Pine Key, FL (1950 to 2000). Supported as an undergraduate research assistant at the Stable Isotope Laboratory.

### **Past Graduate Students**

2003 to 2005 *Bryan Carroll*, MS student. Thesis: Stable Isotope Paleolimnological Investigation of Recent Sediments From Lake Monroe, FL. Completion Summer/05, defended thesis on July 26, 2005.

### **Current Graduate Students**

2001 to 2008 *Samantha Evans*, Ph.D. candidate. Dissertation topic: Carbon and Nitrogen Stable Isotope Patterns in Modern and Geologic Records from South Florida coastal Ecosystems. Expected completion – Summer 2007.

2006 to 2008 *Michelle Sanchez*, MS student. Thesis: Nitrogen isotopes patterns in POM from Biscayne Bay. Expected completion – Summer 2008.

2007 to present Carrie Rebenack, MS student, Thesis: Carbon isotopes of Plants and OM as indicators of changes in hydroperiod from the Everglades Mash.

### **Graduate Thesis Committees**

#### *a. Within FIU:*

Alyssa Dausman, Earth Sciences	Virginia Cornett, Biology
Anna Wachnika, Earth Sciences	Jed Redwine, Biology
Sonia Hernandez, Earth Sciences	Tiffany Gann, Biology
Alessandro Catenazzi, Biology	Jeffery Wozniak, Biology
Sreepat Jain, Earth Sciences	Daniel Gomez, Biology
Diana Johnson, Env. Studies	Virginia Walsh, Earth Sciences
Amanda Quillen, Biology	Caroline Peyer, Marine Biology
Clayton Williams, Marine Biology	Elaine Gaspar Fontes, Env. Studies
Luis Arroyo, Chemistry	Y. Xu, Chemistry

#### *b. Outside FIU*

Katherine Lamb, MGG, RSMAS, University of Miami  
Maria Camila Pinzon, Biology, University of Miami

### **Current Undergraduate Students**

2007 *Sara Fleming* (Marine Biology), Undergraduate research assistant at the Stable Isotope Laboratory.

## **SERVICE**

### **Professional Service and Activities**

2006 NSF Panelist, Major Research Instrumentation (MRI)/Ocean Technology (OT), May 15-16, Arlington, Virginia.

2005 NSF Panelist, Major Research Instrumentation (MRI)/Ocean Technology (OT), May 16-17, Arlington, Virginia.

- 2003 Invited co-Participant/Presenter (with J.L. Teranes), Stable Isotopic methods and approaches in Lake Sediments, Frontiers in Limnogeology CUSO course at the Institut F. –A. Forel et Département de Géologie et Paléontologie, Section des Sciences de la Terre, University of Geneva (CH). Daniel Ariztegui (Uni Geneva) was Lead Organizer. October 6 & 7, 2003.
- co-Workshop Leader/Organizer (with S. Macko, N. Ostrom, and I. Anderson), Long Term Ecological Research Network All Scientist Meeting (LTER-ASM 2003) – New Methods in Stable Isotope Applications for Long Term Ecological Research, September 18-21, 2003, Seattle WA.
- Committee member, Rosentiel Award Committee, RSMAS, University of Miami, award to outstanding young ocean scientist.
- 2002 Chair of special session at Fall AGU meeting in San Francisco (w/ co-chair J.L. Teranes). PP08 Interpreting Climate Change From Isotopic Records of Precipitation.

### **Professional Affiliations**

AAAS, AGU, and The Geochemical Society

### **Reviews for Journal Manuscripts (2000 to 2006)**

Journal of Geophysical Research-*Atmospheres*, 5 reviews  
 Geochemica et Cosmochimica Acta, 2 review  
 Earth and Planetary Science Letters, 2 reviews  
 Quaternary Research, 1 review  
 Limnology and Oceanography, 1 review  
 Geology, 3 reviews  
 Journal of Paleolimnology, 2 reviews  
 Organic Geochemistry, 1 review  
 Chemical Geology, 1 review  
 International Association of Wood Anatomists (IAWA) Journal, 1 review  
 Plant, Cell and Environment, 1 review  
 Coral Reefs, 2 reviews

### **Proposal Reviews (2000 to 2006)**

I have reviewed proposals for both the NSF and the EU Science Program.

### **Department Service**

2003 to 2004	Search Committee Chair, Atmospheric Sciences, Climatology Position. Undergraduate Committee – member
2002 to 2003	Hydrology Search Committee – member Undergraduate Committee – member
2001 to 2002	Graduate Seminar Series Organizer (both Fall and Spring Semesters). Secured College Funding for Series (~\$1,300). Departmental Evaluation Committee – member
2001 to 2000	Graduate Seminar Series Organizer (both Fall and Spring Semesters). Secured College Funding for Series (~\$1,300). Department Merit Criteria Committee – member

Supported Reena Hernandez's application to the Hispanic Scholarship Fund, where she successfully received \$2,500 scholarship (she also was funded by the Stable Isotope Lab as an URA).

**Arts and Sciences College Service**

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|--------------|--|
| 2007 to 2008 | Chair of College Curriculum Committee– Arts and Sciences<br>College Curriculum Committee Member for Earth Sciences Dept.   |
| 2006 to 2007 | Chair of College Curriculum – Arts and Sciences<br>College Curriculum Committee Member for Earth Sciences Dept.  |
| 2005 to 2006 | College Curriculum Committee Member for Earth Sciences Dept.   |
| 2004 to 2005 | College Curriculum Committee Member for Earth Sciences Dept.<br>Environmental Sciences Program Committee Member (organized departmental Environmental Sciences Tracks for Ph.D. program).<br>School of the Environment Exploratory Committee Member, college level committee charged with exploring different options for consolidating environmental research at FIU into a new School. |
| 2003 to 2004 | College Curriculum Committee Member for Earth Sciences Dept.<br>Environmental Sciences Program Committee Member  |
| 2002 to 2001 | Search Committee Member for Hydrology Position at SERC   |
| 2001 to 2000 | Environmental Scan Committee Member, part of the Year 2000 Plan for FIU.   |

**University Wide Service**

- |           |   |
|-----------|---|
| 2007-2008 | A&S Representative to the University Curriculum Committee |
| 2006-2007 | A&S Representative to the University Curriculum Committee |

## REFERENCES

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