

DAVID E. TENENBAUM
Curriculum Vitae

CONTACT INFORMATION:

Director of Geospatial Technology Certificate Programs
Department of Geography and Regional Studies
University of Miami
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Coral Gables, FL
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Phone: (305) 284-6679
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EDUCATION:

University of North Carolina at Chapel Hill
Ph.D., Department of Geography, May, 2005
Dissertation: Multi-scale Analysis of Moisture Patterns in Urbanizing Landscapes

University of Toronto
M.Sc., Graduate Department of Geography, November, 1998
Thesis: RHESSys/ArcView Integrated Modeling Environment

University of Toronto
Honours B.Sc. with Distinction, Faculty of Arts and Sciences, June, 1996
Double Majors: Physical and Environmental Geography and Environment in Society

CURRENT POSITION:

Director of Geospatial Technology Certificate Programs
August 2011 – Present, Department of Geography and Regional Studies, University of Miami – Teaching geographic information science and hydroecology, and administering the Department's Certificate Program in Geospatial Technology, acting as a point of first contact for interested students, coordinator of course offerings and timing, developer of online and print materials to describe and advertise the programs, and acting as an advisor to enrolled students to ensure their selected coursework fulfills the program requirements and achieves their learning objectives - <http://www.as.miami.edu/geography/gisc/gisc.html>.

PREVIOUS POSITIONS:

Director, Geographic Information Technologies Certificate Programs
March 2009 – August 2011, Department of Environmental, Earth and Ocean Sciences, University of Massachusetts Boston – Administering the EEOS Department's undergraduate and graduate programs in geographic information science and technology, acting as a point of first contact for interested students, coordinator of course offerings and timing, developer of online and print materials to describe and advertise the programs, and acting as an advisor to enrolled students to ensure their selected coursework fulfills the program requirements and achieves their learning objectives - <http://www.umb.edu/gis>.

Assistant Professor

September 2007 – August 2011, Department of Environmental, Earth and Ocean Sciences, University of Massachusetts Boston – Conducting research and teaching in geographic information science and hydroecology, and service to further the goals of the department and university within the institution as well as in the greater Boston area, the Commonwealth of Massachusetts, and beyond - <http://www.eeos.umb.edu>.

Canadian Government Laboratory Visiting Fellow

July 2006 – August 2007, Environment Canada, Water & Climate Impacts Research Centre at the University of Victoria – Applied geographic information science and environmental modeling approaches to studying the hydroecology of agricultural catchments as part of the National Agri-Environmental Standards Initiative - <http://w-circ.uvic.ca>

Research Assistant/Post-doctoral Fellow

August 1998 – February 2006, Hydroecology Research Group, Department of Geography, University of North Carolina at Chapel Hill – Processed and maintained geographic and remotely sensed data, conducted spatial analyses, developed software for the support of the Regional HydroEcological Simulation System (RHESSys), participated in the conceptual extension of RHESSys for use in urbanizing landscapes - <http://www.unc.edu/depts/geog/herg>

National Sciences and Engineering Research Council Industrial Postgraduate Research Fellow

September 1996 – August 1998, Center for the Study of Commercial Activity, Ryerson Polytechnic University – Developed algorithms and software designed to extract location data from large commercial databases, conducted spatial analyses, geo-coded extracted data and prepared geographic databases for use in strategic commercial applications and publications - <http://www.cscs.ryerson.ca>

Assistant Field Investigator

April 1996 – August 1996, Surface Water Quality Branch, Water Environment Protection Division, Regional Municipality of Ottawa-Carleton – Developed website providing surface water quality information to constituents, provided cartographic skills to the Branch to further operational mapping, aided in the development of geographic databases, constructed a link between spatial data and an Oracle-based surface water quality data repository, assisted in field data collection and equipment installation & maintenance - http://www.ottawa.ca/residents/waterwaste/surface/water_quality_en.html

COURSES TAUGHT:

- *Place, Region, Nature*, Geography and Regional Studies, Univ. of Miami, Fall 2011
- *Programming for GIScience Applications*, EEOS, UMass-Boston, Fall 2009, Spring 2011
- *Introduction to Geographic Information Systems*, EEOS, UMass-Boston, Fall 2010, Geography and Regional Studies, Univ. of Miami, Fall 2011
- *GIS for Water Resources Research*, EEOS, UMass-Boston, Spring 2008, Spring 2009, Spring 2010
- *Environmental Modeling with Raster GIS*, EEOS, UMass-Boston, Spring 2009
- *Computer Applications in Geography*, EEOS, UMass-Boston, Fall 2007, Fall 2008
- *Special Topics: GIS for Public Health*, EEOS, UMass-Boston, Fall 2007
- *Hydrology*, Department of Geography, University of Victoria, Summer 2007
- *Modeling Environmental Systems*, Department of Geography, UNC-Chapel Hill, Fall 2005
- *Introduction to Geographic Information*, Department of Geography, UNC-Chapel Hill, Spring 2005
- *Quantitative Methods in Geography*, Department of Geography, UNC-Chapel Hill, Spring 2005

STUDENTS SUPERVISED:

- Undergraduate Independent Studies
 - Will Kilburn, Spring 2010
 - Jay Metzger, Spring 2010
 - Vijaylaxsmi Kesavan, Fall 2009
 - Carlo Scarpa, Spring 2009
 - Maureen O’Gara, Spring 2008
- Undergraduate Cooperative Education Experiences
 - Vijaylaxsmi Kesavan, Spring 2010
 - Tenzing Rapgyal, Spring 2010
 - Sandra Ricaurte, Spring 2010
 - Jennifer Tuccinnardi, Fall 2009
- Undergraduate Practicum
 - James Cunningham, Spring 2010
 - Bonnie Fryer, Fall 2008
- Graduate Independent Study
 - Peter Sherman, Spring 2010
- Graduate, Primary Advisor
 - Talya Cohen, MS 2011
 - Lu Kang, MS 2011
- Graduate, Committee Member
 - Yun Yang, PhD in progress
 - Chris Maio, PhD in progress, MS August 2010
 - Sujata Poudel, PhD in progress
 - Uttam-Babu Shrestha, PhD in progress
 - Elizabeth Sun, PhD in progress
 - Jennifer Kerry, MS in progress
 - Barry Fradkin, MS December 2009
 - Brett Hillman, MS August 2010

PUBLICATIONS:

Refereed Papers

Tenenbaum, D.E., Yang., Y., and W. Zhou. 2011. A Comparison of Automated and Interpretation Methods for Obtaining Land Cover Information from Digital Orthophotography. *GIScience and Remote Sensing*, 48(1):112-19.

Tague, C., Band, L.E., Kenworthy, S.T., and D.E. Tenenbaum. 2010. Plot- and watershed-scale soil moisture variability in a humid Piedmont watershed, *Water Resources Research*, 46:W12541, doi:10.1029/2009WR008078.

Baird, D.J., Peters, D.L., Curry, R.A., Horrigan, N., Monk, W.A., and D.E. Tenenbaum. 2009: Establishing Standards and Assessment Criteria for Instream Flow Needs in Agricultural Watersheds of Canada. National Agri-Environmental Standards Initiative, Synthesis Report No. 15. Environment Canada, Gatineau, PQ. 73 pp.

Tenenbaum, D.E., Cadenasso, M.L., Band, L.E., and S.T.A. Pickett. 2006. Using Transects to Sample Digital Orthophotography of Urbanizing Catchments to Provide Landscape Position Descriptions. *GIScience and Remote Sensing*, 43(4):323-351.

Tenenbaum, D.E., Band, L.E., Kenworthy, S.T., and C.L. Tague. 2006. Analysis of Soil Moisture Patterns in Forested and Suburban Catchments in Baltimore, Maryland using High-resolution Photogrammetric and LIDAR Digital Elevation Datasets. *Hydrological Processes*, 20:219-240.

Band, L.E, Tague, C., Brun, S.E., Tenenbaum, D.E., and R.A. Fernandes. 2000. Modelling Watersheds as Spatial Object Hierarchies: Structure and Dynamics. *Trans. in GIS*, 4(3):181-196.

Manuscripts Accepted for Publication

Maio, C.V., Gontz, A.M., Tenenbaum, D.E., and E.P. Berkland. 2011. Coastal Hazard Vulnerability Assessment of Sensitive Historical Sites on Rainsford Island, Boston Harbor, MA. *Journal of Coastal Research*.

Armanini, D.G., Monk, W.A., Tenenbaum, D.E., Peters, D.L., and D.J. Baird. Influence of Regime Type on a Macroinvertebrate-based Flow Index in Rivers of British Columbia (Canada). *Ecohydrology*.

Non-Refereed Papers

Peters, D.L., Baird, D.J., and D.E. Tenenbaum. 2007. Towards the Development of Instream Flow Needs Standards for Agricultural Watersheds in Canada – Interim Report. NAESI Technical Report prepared by Environment Canada for the National Agri-Environmental Standards Initiative. NAESI Technical Series No. 3-40, 89pp.

Simmons, S., Simmons, J., and D. Tenenbaum. 2000. Clusters of Commercial Locations in Canada: A Multivariate Analysis by FSA. Centre for the Study of Commercial Activity Research Report 2000-8, 40pp. <http://www.cscs.ryerson.ca/publications/2000-08.html>

Simmons, J., Kamikihara, S., and D. Tenenbaum. 1998. Analyzing Market Share in Canadian Cities. Centre for the Study of Commercial Activity Research Report 1998-5, 27pp. <http://www.cscs.ryerson.ca/publications/1998-05.html>

CONFERENCE PRESENTATIONS AND INVITED LECTURES:

Peters, D.L., Atkinson, D., Baird, D.J., Monk, W.A. and D.E. Tenenbaum. Assessment of Annual and Seasonal Runoff Generation Trends and Variability within the Athabasca River Watershed over the Last Century. 2011 Canadian Geophysical Meeting Annual Scientific Meeting, Banff, Alberta, May 16, 2011.

Tenenbaum, D.E., Yang, Y. And W. Zhou. A Comparison of Object-oriented Image Classification and Transect Sampling Methods for Obtaining Land Cover Information from Digital Orthophotography. 107th Association of American Geographers Annual Meeting, Seattle, Washington, April 14, 2011.

Poudel, S., Tenenbaum, D.E., Harris, J.L. and A.D. Christian. Community Classification and Distribution Patterns of Freshwater Mussels in the Strawberry River, Arkansas. American Society of Limnology and Oceanography 2011 Aquatic Sciences Meeting, San Juan, Puerto Rico, February 14, 2011.

Armanini D., Tenenbaum, D.E., Monk, W.G., Peters D.L., and D.J. Baird. Development of a riverine benthic invertebrate tool to support the definition of hydroecological management guidelines: the Canadian Ecological Flow Index (CEFI). 3rd Joint Canadian Meteorological and Oceanographic Society / Canadian Geophysical Union Congress, Ottawa, Ontario, June 2, 2010.

- Tenenbaum, D.E., Band, L.E., Moody, A. and J. Xiao. Moderate Resolution Remote Sensing of Surface Moisture Conditions in Urbanizing Landscapes. American Geophysical Union 2009 Fall Meeting, San Francisco, California, December 16, 2009.
- Yang, Y. and D.E. Tenenbaum. Comparison of transect sampling and object-oriented image classification methods of urbanizing catchments. American Geophysical Union 2009 Fall Meeting, San Francisco, California, December 14, 2009.
- Tenenbaum, D.E. GIS – What is Where? Boston Area Advanced Technological Education Connections and Commonwealth Alliance for IT Education ICT Careers Day, Boston, Massachusetts, November 25, 2008.
- Tenenbaum, D.E. Multi-scale Analysis of Moisture Patterns in Urbanizing Landscapes, Center for Urban Environmental Research and Education Seminar Series, University of Maryland at Baltimore County, Baltimore, Maryland, October 10, 2008.
- Tenenbaum, D.E. GIS, Transportation, and the Environment. 2008 UMass Boston Summer Transportation Institute, Boston, Massachusetts, July 15, 2008.
- Baird, D.J., Peters, D.L., Curry, R.A., Horrigan, N., Monk, W.A., and D.E. Tenenbaum. Working Towards Establishing Standards and Assessment Criteria for Instream Flow Needs in Agricultural Watersheds of Canada. 2008 Canadian Geophysical Meeting Annual Scientific Meeting, Banff, Alberta, May 14, 2008.
- Tenenbaum, D.E., Band, L.E., Moody, A. and J. Xiao. MODIS Surface Moisture in Urbanizing Landscapes. 104th Association of American Geographers Annual Meeting, Boston, Massachusetts, April 18, 2008.
- Band, L.E., Lipscomb, M., Tague, C.L., Shields, C., Groffman, P., and D.E. Tenenbaum. Hydroclimate Variability Impacts on Urban and Suburban Water Quality. 104th Association of American Geographers Annual Meeting, Boston, Massachusetts, April 18, 2008.
- Tenenbaum, D.E., Band, L.E., Moody, A. and J. Xiao. Characterizing Surface Moisture Conditions in Maryland Climate Division 6 Using Moderate Resolution Satellite Imagery. 9th Baltimore Ecosystem Study Annual Meeting, Baltimore, Maryland, October 18, 2007.
- Tenenbaum, D.E., Baird, D.J., Horrigan, N. and D.L. Peters. Digital Terrain Analysis to Support the Development of an Ecological Flow Needs Standard. CMOS-CGU-AMS Congress, St. John's, Newfoundland, May 31, 2007.
- Tenenbaum, D.E. Multi-scale Analysis of Moisture Patterns in Urbanizing Landscapes. Department of Geography Colloquium, University of Victoria, Victoria, British Columbia, November 24, 2006.
- Tenenbaum, D.E. Modelling Hydrological Processes. Guest Lecture - Geography 370 (Hydrology), Department of Geography, University of Victoria, Victoria, British Columbia, November 21, 2006.
- Tenenbaum, D.E., Band, L.E., Kenworthy, S., and C. Tague. Analysis of Soil Moisture Patterns in Forested and Suburban Catchments Using High-Resolution Photogrammetric and LIDAR Digital Elevation Datasets. Joint American Geophysical Union – Canadian Geophysical Union Meeting, Montreal, Quebec, May 20, 2004.
- Tenenbaum, D.E., Band, L.E., Kenworthy, S., and C. Tague. Comparing Observations of Near-surface Soil Moisture and Topographic Index Values in an Urbanizing Environment. 100th Association of American Geographers Annual Meeting, Philadelphia, Pennsylvania, March 15, 2004.

Band, L.E., Kenworthy, S., Tague, C., Tenenbaum, D.E., and P.M. Groffman. Spatial Dynamics of Soil Moisture at Hillslope and Small Catchment Scales. American Geophysical Union 2003 Fall Meeting, San Francisco, California, December 11, 2003.

Tenenbaum, D.E., Band, L.E., Moody, A. and J. Xiao. Using Moderate Resolution Remotely-Sensed Imagery to Characterize the Spatial and Temporal Structure of Drought Properties. EGS - AGU - EUG Joint Assembly, Nice, France, April 9, 2003

Tenenbaum, D.E., Band, L.E., Moody, A. and J. Xiao. Tracking Drought Impact on Managed and Unmanaged Ecosystems of North Carolina. Water Resources Research Institute 2002 Annual Conference, Raleigh, North Carolina, March 31, 2003.

Band, L.E., Moody, A., Tenenbaum, D.E. and J. Xiao. MODIS Observation of Ecosystem Drought. 99th Association of American Geographers Annual Meeting, New Orleans, Louisiana, March 6, 2003

Band, L.E., Tenenbaum, D.E., Tague, C., Kenworthy, S., Law, N.L., Cadenasso, M.L and S.T.A. Pickett. Multiresolution Morphology and Metabolism of the Metropolis. American Geophysical Union 2002 Fall Meeting, San Francisco, California, December 7, 2002.

Band, L.E., Kenworthy, S., Tenenbaum, D.E. and N.L. Law. A Tale of Two Catchments: Space/Time Soil Water Dynamics in the Baltimore Ecosystem Study. 57th Annual Meeting, Association of American Geographers, Southeastern Division, Richmond, Virginia, November 26, 2002.

Tenenbaum, D.E. Distributed Hydrological Modeling of Urbanizing Ecosystems: Investigating the Impact of Urbanization Pattern in Baltimore, Maryland, USA. 1st World Wide Workshop for Junior Environmental Scientists, Val de Marne, France, May 23, 2002.

Tenenbaum, D.E., Band, L.E. and S. Kenworthy. Soil Moisture Pattern Dynamics in Urbanizing Landscapes. 98th Association of American Geographers Annual Meeting, Los Angeles, California, March 21, 2002.

Band, L.E., Fisher, G., Groffman, P., Kenworthy, S., Law, N.L., and D.E. Tenenbaum. Hydroecology of Urbanizing Watersheds. 98th Association of American Geographers Annual Meeting, Los Angeles, California, March 21, 2002.

Law, N.L., Band, L.E., Tague, C., Kenworthy, S., Belt, K., Groffman, P. and D.E. Tenenbaum. Urban Hillslope and Watershed Dynamics –1: Sources, Sinks, and Pathways. American Geophysical Union Chapman Conference on State-of-the-Art in Hillslope Hydrology, Sunriver, Oregon, October 11, 2001.

Band, L.E., Tenenbaum, D.E., Tague, C., Law, N.L., Shin, D., Groffman, P. and K. Belt. Linking Nitrogen Cycling and Export with Variable Source Area Dynamics in Forested and Urbanizing Catchments. American Geophysical Union 2001 Spring Meeting, Boston, MA, May 31, 2001.

Tenenbaum, D.E. ArcView Transect Characterization System. 97th Association of American Geographers Annual Meeting, New York, New York, March 3, 2001.

Band, L.E., Groffman, P., Tague, C.L., Law, N.L., and D.E. Tenenbaum. Spatial Organization and Connectivity of Watershed Form and Processes: Impact on Nitrogen Cycling and Export. 2001 Baltimore Ecosystem Study Science Meeting, Baltimore, Maryland, January 17, 2001.

Band, L.E., Law, N.L., Tenenbaum, D.E., Groffman, P., and K. Belt. Spatial Monitoring And Modeling Of Urbanizing Watersheds. 2000 Southeastern Division Meeting of the Association of American Geographers, Chapel Hill, North Carolina, November 21, 2000.

Band, L.E., Tague, C., Tenenbaum, D.E., Groffman, P., and K. Belt. Nutrient Transport and Scaling Issues in Mixed Land Use Ecosystems. American Institute of Hydrology 2000 Annual Meeting, Research Triangle Park, North Carolina, November 7, 2000.

Band, L.E., Tague, C., Brun, S.E., Tenenbaum, D.E., and R.A. Fernandes. Modelling Watersheds as Spatial Object Hierarchies: Structure and Dynamics. 4th International Conference on Integrating GIS and Environmental Modeling, Banff, Alberta, Canada, September 5, 2000.

Band, L.E. and D.E. Tenenbaum. A Spatially Distributed Object-Oriented Model for Simulating Terrestrial, Water, Carbon and Nitrogen Cycling and Transport. Environmental Protection Agency Cross-Discipline Ecosystem Modeling and Analysis Workshop, Research Triangle Park, North Carolina, August 15, 2000.

Tenenbaum, D.E. and L.E. Band. Developing the RHESSys/ArcView Integrated Modeling Environment for Use in an Urban Setting. 96th Association of American Geographers Annual Meeting, Pittsburgh, Pennsylvania, April 5, 2000.

Tenenbaum, D.E., Cadenasso, M.L., Band, L.E., and S.T.A. Pickett. ArcView Transect Classification System. 1999 Baltimore Ecosystem Study Annual Meeting, Baltimore, Maryland, October 14, 1999.

GRANTS PENDING:

National Aeronautical and Space Administration, Research Opportunities in Space and Earth Sciences - 2010 (ROSES-2010), Terrestrial Hydrology Program, Using Satellite and Field Observations to Characterize Soil Moisture Conditions and Hillslope-to-Harbor Carbon Fluxes in the Greater Boston Area, PI, requesting \$686,774 with Chen, R, Schaaf, C, Nemani, R, Sandholt, I, Tague, C.

AFFILIATIONS:

American Geophysical Union
Association of American Geographers