

T. EDWIN CHOW

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Department of Earth and Resource Science,
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EDUCATION

Ph.D., Geography, University of South Carolina at Columbia	2005
M.S., Geography, University of South Carolina at Columbia	2002
B.A., Geography, University of Texas at Austin	2000

RESEARCH AND TEACHING INTERESTS

- Geographic Information Science
- GIS and Spatial Modeling
 - Accuracy Assessment and Uncertainty
 - Scale
 - Distributed GIS and Internet Mapping
 - Lidar Processing and Applications

HONORS/AWARDS

Distinguished Professor Award Nomination at University of Michigan - Flint	2007, 2008
Golden Apple Award Nomination at University of Michigan - Flint	2006, 2008
Honorable Mention of the Lovingood Award at University of South Carolina	2004
All-American Scholar Collegiate Award	2000
National Collegiate Natural Sciences Award	2000
College Scholar at University of Texas at Austin	2000
Graduated with High Honor at University of Texas at Austin	2000
Dean's List at the University of Kentucky	1997 – 1998

PROFESSIONAL ORGANIZATIONS

Association of American Geographers (AAG)
American Society of Photogrammetry and Remote Sensing (ASPRS)
American Water Resource Association (AWRA)

GRANTS

Chow, T. E., Research and Creativity Activity Award Phase II Funding Pilot Program, University of Michigan – Flint, 2008, **\$500**.

- _____, Research and Creativity Activity Award, University of Michigan – Flint, 2008, **\$8,895**.
- _____, Faculty International Travel Awards, University of Michigan – Flint, 2008, **\$2,000**.
- _____, Research and Creativity Activity Award, University of Michigan – Flint, 2007, **\$12,245**.
- _____, Faculty Development Pedagogical Grant, University of Michigan – Flint, 2007, **\$1,630**.
- _____, Research and Creativity Activity Award, University of Michigan – Flint, 2006, **\$18,533**.
- _____, Course Design Fellowship, University of Michigan – Flint, 2006, **\$3,000**.
- _____, Travel Grant, Chinese Professional in Geographic Information Systems. 2005, **\$800**.
- _____, Travel Grant, University Consortium of Geographic Information Science. 2001, **\$400**.

PUBLICATIONS

Refereed Book Chapter:

- Gaines, K. F., T. E. Chow, and S. A. Dyer., 2008. "Exposure and Exposure Assessment", Ecotoxicology. Vol. [2] of Encyclopedia of Ecology, 5 vols., edited by S. E. Jørgensen and B. D. Fath, (Oxford: Elsevier), pp. 1527-1534.

Refereed Journal Articles:

- Chow, T.E., and Hodgson, M.E., Effects of Lidar Post-spacing and DEM Resolution to Mean Slope Estimation, *International Journal of Geographic Information Science*. In press.
- _____, 2008. The potential of Maps APIs for Internet GIS, *Transactions in GIS*. 12(2): 179-191.
- _____, K.F. Gaines, M.E. Hodgson, and M.A. Wilson, 2005. Habitat and Exposure Modeling of Raccoon for Ecological Risk Assessment: A Case Study in Savannah River Site, *Ecological Modelling*. 189: 151-167.

Journal Articles in Preparation:

- Chow, T.E., and Sadler, R., Suitability Modeling Based on Multi-perspective Expert Knowledge, *Landscape and Urban Planning*, In review.
- _____, M.E. Meadows, and M.E. Hodgson. GIS-based Synthetic Unit Hydrograph for Stormwater Modeling, In preparation of submission to *Environmental Modeling and Software*.
- Hodgson, M.E., and _____, Comparison of Interpolation Methods for Mapping Surface Slope From Airborne Lidar Data, In preparation of submission to *Remote Sensing of Environment*.

Technical Report:

Chow, T.E., 2001. "User Manual of Curve Number Script in Hydrologic Modeling", Stormwater Services in the Department of Public Works, Richland County, South Carolina.

PRESENTATIONS

Conferences

Chow, T.E., and Sadler, R., 2008. "Integration of Expert Knowledge in GIS-based Land Use Suitability Analysis", *Annual Meeting of the International Conference of Geographic Information Systems*, July 2 – July 5, Istanbul, Turkey.

_____, and Sadler, R., 2008. "Positional Error Assessment in Spatial Database", *Annual Meeting of the ASPRS*, April 29- May 2, Portland, OR.

_____, 2008. "Linking GIS to Stormwater Modeling", *Annual Meeting of the AAG*, April 15-19, Boston, MA.

_____, 2007. "Maps APIs for Internet GIS Applications", *Annual Meeting of the AAG*, April 17-22, San Francisco, CA.

_____, and Kuptz, R.A., 2006. "Accuracy Assessment of Contour-derived Elevation and Terrain Slope", *Fall Specialty Meeting of the ASPRS*, November 6-10, San Antonio, TX.

_____, 2006. "Scale Dependence of Rainfall-Runoff Model", *Annual Meeting of the AAG*, March 7-11, Chicago, IL.

_____, 2005. "A Geospatial Tools for Stormwater Modeling and Management", *Annual Meeting of the AWRA*, November 7-10, Seattle, WA.

Gaines, K.F., _____, M.A. Wilson, and M. E. Hodgson, 2005. "A spatially explicit exposure model to estimate contaminant exposure in wildlife", *The Wildlife Society Twelfth Annual Conference*, Sept. 25-29, Madison, WI.

_____, 2005. "The Effect of Scale in Modeling Hydrologic Response", *Young Scholar Summit of the International Association of Chinese Professional of Geographic Information System*, June 24- July 4, Nanchang and Wuhan, China.

_____, and Hodgson, M.E., 2005. "A Sensitivity Analysis of Post-spacing and Lidar-Derived DEM on Various Stormwater Modeling Approaches", *Annual Meeting of the ASPRS*, March 7-11, Baltimore, MA.

_____, K.F. Gaines, M.E. Hodgson, and M.D. Wilson, 2004. "Habitat and Exposure Modeling for Ecological Risk Assessment", *Annual Meeting of the ASPRS*, May 23-28, Denver, CO.

_____, and M.E. Hodgson, 2004. "Scale Effect on Mean Slope Estimation with Airborne Laser Scanning", *Annual Meeting of the AAG*, March 14-19, Philadelphia, PA.

_____, and M.E. Hodgson, 2003. “Effects of Lidar Post-spacing and DEM Cell Size on Slope Estimation for Hydrologic Modeling”, *Poster Presentation at Annual Meeting of the ASPRS*, May 5-8, Anchorage, AK.

_____, C.M. Anchor, M.E. Hodgson, and P. Bresnahan, 2002. “Stormwater Modeling in Richland County, South Carolina”, *Environmental System Research Institute (ESRI) International Users Conference*, July 8-12, San Diego, CA.

_____, M.E. Hodgson, C.M. Anchor, and P. Bresnahan, 2002. “A Sensitivity Analysis of Modeled Peak Flow from Varying DEM Spatial Resolutions”, *Annual Meeting of the ASPRS*, April 19-26, Washington D.C.

_____, M.E. Hodgson, C.M. Anchor, and P. Bresnahan, 2002. “A Web-Based Geographic Information System Application for Hydrology”, *Annual Meeting of the AAG*, March 19-23, Los Angeles, CA.

_____, 2001. “Cholera Modeling in Peru 1991”, *Poster Presentation at the Summer Assembly of the University Consortium of Geographic Information Science*, June 20-24, Buffalo, NY.

Invited Lecture/Presentations

Chow, T.E., 2008. University of Michigan – Flint, Department of Public Administration, Flint, MI.

_____, 2008. Grand Blanc Community Schools, 3rd and 4th graders, Fenton, MI.

_____, 2007. University of Michigan – Flint, Department of Public Administration, Flint, MI.

_____, 2006. University of Michigan – Flint, Department of Public Administration, Flint, MI.

_____, 2005. Nanchang Normal University, Young Scholar Summit of the International Association of Chinese Professional of Geographic Information System, Nanchang, China.

_____, 2005. University of Michigan – Flint, Department of Earth and Resource Science, Flint, MI.

_____, 2005. Central Michigan University, Department of Geography, Mount Pleasant, MI.

_____, 2005. University of Texas - Dallas, Department of Geology, Dallas, TX.

_____, 2004. University of South Carolina, Department of Civil Engineering, Columbia, SC.

_____, 2004. University of Southern Mississippi, Department of Geography, Hattiesburg, MS.

_____, 2004. Mississippi State University, Department of Geoscience, Hattiesburg, MS.

_____, 2004. University of Denver, Department of Geography, Denver, CO.

J.R. Jensen, J.A. Tullis, B.C. Hadley, _____, 2004. NASA, Earth Science Enterprise (ESE), Stennis Space Center, MS.

_____, 2003. University of South Carolina, Department of Mathematics, Columbia, SC.

Supervised Student Publication:

Sadler, R., 2007. Using suitability analysis to evaluate suitable conservation areas and future development at Camp Tapico, *Meeting of Minds Undergraduate Research Conference XV - Journal of Undergraduate Research*. 9: 286-292.

EMPLOYMENT

Assistant Professor

University of Michigan – Flint

Aug 2005 – Present

- To the following classes:
 1. **Introduction to Environmental Science (ENV 100)**
 2. **Introduction to Spatial Analysis (GEO 203)**
 3. **Geomorphology and Soils (GEO 331)**
 4. **Biogeography (GEO 372)**
 5. **Spatial Analysis Seminar (GEO 404)**
 6. **Research in Geoscience (GEO 498)**
 7. **Independent Study (GEO 499)**
 8. **Geographic Information System I (RPL 370)**
 9. **Geographic Information System II (RPL 371)**
 10. **Geographic Information System Practicum (RPL 470)**

Instructor

University of South Carolina

Jan 2004 – May 2004

- To the following class:
 1. **Introduction to GIS (GEOG E363)**

Research Assistant

Savannah River Ecological Laboratory

Jan 2003 – Dec 2003

- Participated in the execution of projects and developing conceptual wildlife exposure modeling with GIS
- Designed a wildlife exposure modeling tool and developed as a dynamic link library (DLL) extension in ArcGIS
- Wrote and co-authored the final reports and manuscripts

Teaching Assistant

University of South Carolina

Aug 2002 – May 2005

- To the following classes:
 1. **Web GIS (GEOG 763)**

2. GIS-based Modeling (GEOG 564)

3. Advance GIS (GEGO 563)

4. Introduction to GIS (GEOG 363)

- Assisted class lecture, with occasional lecture opportunity
- Designed and instructed the labs
- Assisted graduate students in the final projects
- Provided technical support throughout the course

Research Assistant

Aug 2000 – May 2002

The Richland County, South Carolina – Department of Information Technology

- Served as the primary computer software design and programming expert for the Stormwater Services
- Developed LIDAR applications for hydrologic modeling in small urban watersheds with DRAIN:EDGE
- Developed algorithm to automate building height extraction from LIDAR mass points
- Generated 3D (VRML) visualization of building footprints in downtown Columbia, South Carolina
- Modeled the spatial distribution of female mosquitoes for disease monitoring

Software Products Intern

June 2001 – Aug 2001

Environmental System Research Institute (ESRI) – Software Products Division

- Designed new GIS software functionality for editing topological GIS data with GUI by using Visual Basic and ArcObjects
- Performed quality assurance and developed automated test procedure in SilkTest prior to the release of software extensions
- Wrote and reviewed published information on software capabilities

GIS Analyst

June 1999 – Aug 1999

City of Austin, Texas

- Created and modified data files by putting converted data (COGO) into Unix database system
- Performed manual and visual checks of preliminary data and final product by using ArcInfo and ASI images to ensure quality and accuracy control of all data

TECHNICAL SKILLS

GIS/RS – ArcGIS 9.x, ArcView 3.x, ArcInfo, ArcIMS, ERDAS Imagine, MicroStation

GPS – Trimble 5800, Trimble ProXR, GPS12XL, ArcPad, TerraSync

Environmental – HEC-RAS, HEC-GeoRAS, Qual2e, DRAIN:EDGE, Stella, Surfer

Programming – VB, Java, .NET, SQL, HTML, ASP, Javascript, AJAX, Avenue

Operating system – Win OS, Unix, Mac OS, MS DOS

General – Microsoft Office ®, SAS, SPSS, Macromedia Dreamweaver, Freehand, Adobe Photoshop

SERVICES

Reviewer in Peer-reviewed Journal

- Journal of Environmental Management
- Journal of Hazards Material
- Natural Hazards Review
- International Journal of Geographic Information Science

Committee

- 2008 (Winter), Scholarships, Awards, and Special Events Committee, University of Michigan – Flint.
- 2006 (Fall), Extended Learning and Service Committee, University of Michigan – Flint.

Professional

- Hosted the Improving Michigan's Access to Geographic Information Networks (IMAGIN) Emerging Technologies Seminar Series, February 6, 2008, University of Michigan – Flint.