

LIEM THANH TRAN
 Professor of Geography & Associate Head
 Professor of Bredesen Center for Interdisciplinary Research
 and Graduate Education
 University of Tennessee at Knoxville
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a. Professional Preparation

<u>Institution</u>	<u>Program or Degree</u>	<u>Dates in Program</u>	<u>Degree</u>
Pennsylvania State University	Postdoctoral training (integrated assessment)	1999 – 2003	
University of Hawai'i at Manoa	Ph.D. Geography	1995 – 1999	Ph.D.
University of Hawai'i at Manoa	M.A. Geography	1993 – 1995	M.A.
HoChiMinh City University	M.Eng. Environmental	1990 – 1992	M.Eng.
HoChiMinh City University	B.Eng. Civil*	1980 – 1984	B.Eng.

*Outstanding Graduate

Expertise: physical and environmental geography (focus on landscape ecology, hydrology, climatology, integrated modeling); decision-making science (focus on human-environment interactions); artificial intelligence techniques (focus on fuzzy theory and its application to environmental studies); spatial/quantitative analysis (focus on uncertainty assessment).

b. Appointments

<u>Ranks Held</u>	<u>Institution</u>	<u>Department</u>	<u>Effective Date of Rank</u>
Professor	University of Tennessee	Geography	2017-present
Professor	University of Tennessee	Bredesen Center for Interdisciplinary Research & Graduate Education	2020-present
Associate Professor	University of Tennessee	Geography	2010-2017
Associate Professor (adjunct)	University of Tennessee	Civil & Environmental Engineering	2015-2017
Assistant Professor	University of Tennessee	Geography	2006-2010

Assistant Professor	Florida Atlantic University	Geosciences	2003-2006
Adjunct Assistant Professor	Pennsylvania State University	Geography	2001-2003
Postdoctoral Research Associate	Pennsylvania State University	Center for Integrated Regional Assessment	1999-2003
Research Assistant	University of Hawai'i at Manoa	Geography	1996-1999
Lecturer	HoChiMinh City University	Center for Water Supply and Environment	1989-1992
Lecturer	HoChiMinh City University	Geophysics and Hydrogeology	1984-1989

c. Synergistic Activities

He has participated in several multi-disciplinary activities, such as:

- UTK Coronavirus-19 Outbreak Response Experts (CORE-19) team (April 2020-present): a network of researchers in public health, economics, public policy, agriculture, veterinary medicine, and other disciplines who seek to provide timely and evidence-based information for policymakers, industry, and the public on pressing questions regarding the global pandemic.
- Member of the Substance Misuse and Addiction Resource for Tennessee (SMART) Policy Network which was created in 2020 to support the University of Tennessee's efforts around substance misuse and abuse.
- Relationship between ENSO and water-borne diseases in South Pacific countries (1997-1999); Human Dimension of Global Climate Change, NOAA; PI: Nancy Lewis (University of Hawaii); tasks: data analysis and modeling.
- Influence of forest fragmentation on watershed functions in Northern Vietnam (1997-1999); NSF project; PI: Jefferson Fox (East-West Center); tasks: hydrological/ecological field work, apply GIS and hydrological modeling to compute water/energy fluxes, water balance, runoff at watershed scale.
- Multi-objective optimization for community-state coordination of urban water, sanitation, and pollution control (1998-1999); World Bank project; PI: Mark Ridgley (University of Hawaii); tasks: develop optimization models that assist multi-stakeholders in allocating resources and contributions.
- Decision support system for coral reef management (1998-1999); Hawaii Coral Reef Initiative; PI: Mark Ridgley (University of Hawaii); tasks: develop model to link terrestrial fluxes with marine and coastal processes, link the model to a multi-objective decision support system.
- CIRA – Center for Integrated Regional Assessment; PI: C. Gregory Knight (Penn State University); tasks: develop integrated regional assessment model.

- HERO – Human Environment Regional Observatory Network Project (2000-2004); PI: Brent Yarnal (Penn State University); tasks: methodological development, geocomputation, interdisciplinary modeling.
- ReVA – EPA’s Regional Vulnerability Assessment (2000-2020); Program Director: Elizabeth Smith; tasks: develop techniques for integration ecological indicators; assess uncertainty associated with thematic maps and ecological indicators.
- U.S. EPA’s Future Midwest Landscapes Study (2008-2013). Directors: Elizabeth Smith and Randall Bruins; tasks: integrated modeling, integrated assessment, uncertainty analysis, decision-support tool development.

d. Teaching

- 2006-current University of Tennessee at Knoxville, Geography Department; Courses: *Our Digital World, Weather, Climate, and Climate Change, Water Resources, First Steps in GIS Programming, Quantitative Methods in Geography, Geovisualization and Geographic Information Science, Intermediate Geographic Information Science, GIS in the Community, Geography of the Natural Environment, Environmental Integrated Assessment, GIS Environmental Modeling, Watershed Dynamics, Advanced quantitative methods in geography.*
- 2003-2006 Florida Atlantic University, Geoscience Department; Courses: *Water Resources, Weather and Climate, Environmental Issues in Atmospheric and Earth Science, Blue Planet, Coastal Hazards, Human-Environmental Systems.*
- 2002-2003 The Pennsylvania State University, Geography Department; Courses: GEOG 406 -*Human Use of Environment, GEOG 410 - Water Resources.*
- 1997-1998 University of Hawaii at Manoa, College of Social Sciences; Teaching Assistant; Course: *Statistics for Social Sciences*; Task: computer labs and assignments; Class Size: 50-70.
- 1989-1993 HoChiMinh City University, Center for Water Supply and Environment; Instructor; Course: *Introduction to Water Supply and Sanitation* (upper undergraduate level course); Class Size: 40-50.
- 1985-1989 HoChiMinh City University, Department of Geophysics and Hydrogeology; Instructor; Courses: *Introduction to Hydrogeology, Groundwater Dynamics and Modeling* (upper undergraduate level course); Class Size: 25-35.

e. Publications

Articles published in refereed journals

1. Giambelluca, T.W., **Tran, L.T.**, Ziegler, A.D., and Menard, T.P. (1996). Soil-vegetation-atmosphere processes: simulation and field measurement for deforested sites in northern Thailand, *Journal of Geophysical Research*, v 101 n D20, 25,867-25,885.
2. Ziegler, A.D., Sutherland, R., and **Tran, L.** (1997). Influence of rolled erosion control systems on temporal rainplash response - A laboratory rainfall simulation experiment. *Land Degradation & Development*, vol. 8, 139-157.

3. Ridgley, M., Penn, D., and **Tran, L.T.** (1997). A multicriterion decision support for a conflict over stream diversion and land water reallocation in Hawaii. *Applied Mathematics and Computation*, v 83 n 2/3, 153-172.
4. Lewis, N., Hamnett, M., Prasad, U., **Tran, L.**, and Hilton, A. (1998). Climate and health in the Pacific: Research in Progress. *Pacific Health Dialog* 5(1), 187-190.
5. Giambelluca, T.W., Nullet, M., Ziegler, A.D., and **Tran, L.** (2000). Latent and sensible energy flux over deforested land surfaces in the eastern Amazon and northern Thailand. *Singapore Journal of Tropical Geography*, v 21 n 2, 107-130.
6. Leung, P.S., and **Tran, L.T.*** (2000). Predicting shrimp disease occurrence: Artificial neural networks vs. logistic regression. *Aquaculture* 187, 35-49.
7. Leung, P.S, **Tran, L.T.**, and Fast, A. * (2000). A logistic regression of risk factors for disease occurrence on Asian shrimp farms. *Diseases of Aquatic Organisms* 41, 65-76.
8. **Tran, L.T.**, Ridgley, M.A., Duckstein, L., and Sutherland, R. (2002). Application of fuzzy logic-based modeling to improve the performance of the Revised Universal Soil Loss Equation. *Catena* vol. 47, no. ER3, pp. 203-226.
9. **Tran, L.T.**, Knight, C.G., and Wesner, V. (2002) Drought in Bulgaria and atmospheric synoptic conditions over Europe. *GeoJournal*. 57: 149–157.
10. **Tran, L.T.**, and Duckstein, L. (2002a). Comparison of fuzzy numbers using a fuzzy distance measure. *Fuzzy Sets and Systems* 130(3):331-341.
11. **Tran, L.T.**, and Duckstein, L. (2002b). Multiobjective fuzzy regression with central tendency and possibilistic properties, *Fuzzy Sets and Systems* 130(1):21-31.
12. **Tran, L.T.**, Knight, C.G., O'Neill, R.V., Smith, E.R., Riitters, K.H., and Wickham, J. (2002). Fuzzy decision analysis for integrated environmental vulnerability assessment of the Mid-Atlantic region, *Environmental Management* 29:845–859.
13. **Tran, L.T.**, Knight, C.G., O'Neill, R.V., Smith, E.R., and O'Connell, M. (2003) Self-organizing maps for integrated environmental assessment of the U.S. Mid-Atlantic region. *Journal of Environmental Management* 31(6):822-835.
14. Giambelluca, T.W., Ziegler, A.D., A.D., Nullet, M.A., Truong, D.M., and **Tran, L.T.** (2003) Transpiration in a small tropical forest patch. *Agricultural and Forest Meteorology* 117:1-22.
15. **Tran, L. T.**; Knight, C. G.; O'Neill, R. V.; Smith, E. R. (2004) Integrated Environmental Assessment of the Mid-Atlantic Region with Analytical Network Process. *Environmental Monitoring and Assessment* 94 (1/3):263-277.
16. Ziegler, A.D., Giambelluca, T.W., **Tran, L.T.**, Vana, T.T., Nullet, JM.A., Fox, J., Tran, V.D., Pinthong, J., Maxwell, J.F., and Evett, S. (2004). Hydrological consequences of landscape fragmentation in mountainous northern Vietnam: evidence of accelerated overland flow generation; *Journal of Hydrology*, Volume 287, Issues 1-4, Pages 124-146.

* Senior author is not assigned.

17. Locantore, N. W.; **Tran, L. T.**, O'Neill, R. V.; McKinnis, P. W.; Smith, E. R.; O'Connell, M. (2004). An Overview of Data Integration Methods for Regional Assessment, *Environmental Monitoring and Assessment* 94 (1/3):249-261.
18. **Tran, L.T.**, Jarnagin, S.T., Wickham, J.D., and Knight, C.G. (2005). Mapping thematic accuracy with fuzzy sets. *Photogrammetric Engineering and Remote Sensing*, vol. 71 (1), pp. 29-36.
19. Ziegler, A.D., **Tran, L.T.**, Giambelluca, T.W., Sidle, R.C., Sutherland, R.A., Nullet, M.A., Tran, V.D. (2006). Effective slope lengths for buffering hillslope surface runoff in fragmented landscapes in northern Vietnam. *Forest Ecology and Management*, 224(1-2):104-118.
20. **Tran, L.T.**, O'Neill, R.V., Smith, E.R. (2006). A generalized distance measure for environmental integrated assessment. *Landscape Ecology* 21:469–476.
21. Smith, E.R., McKinnis, P., **Tran, L.T.**, O'Neill, R.V. (2006). The Effects of uncertainty on estimating the relative environmental quality of watersheds across a region. *Landscape Ecology* 21:225–231.
22. **Tran, L.T.**, O'Neill, R.V., Smith, E.R., and Knight, C.G. (2007). Sensitivity analysis of aggregated environmental indices with a case-study of the Mid-Atlantic region. *Environmental Management* 39:506-514.
23. Saaty, T.L. and **Tran, L.T.** (2007). On the invalidity of fuzzifying numerical judgments in the Analytic Hierarchy Process. *Mathematical and Computer Modelling*, 46(7-8): 962-975.
24. Ziegler, A.D., Giambelluca, T.W., Plondke, D., Leisz, S., **Tran, L.T.**, Fox, J., Nullet, M.A., Vogler, J.B., Dao, T.M., and Tran, V.D. (2007). Hydrological consequences of landscape fragmentation in mountainous northern Vietnam: Buffering of Hortonian overland flow. *Journal of Hydrology*, Volume 337, Issues 1-2, Pages 52-67.
25. **Tran, L.T.**, O'Neill, R.V., Smith, E.R., Wagner, P.F., and Mehaffey, M. (2008). Watershed-Based Self- and Peer-Appraisal Indices for Integrated Environmental Assessment with a Case Study of the Mid-Atlantic Region. *Ecological Indicators*, 8(3): 308-315.
26. **Tran, L.T.**, O'Neill, R.V., Smith, E.R. (2009). Determine the most influencing stressors and the most susceptible resources for environmental integrated assessment. *Ecological Modelling*, 220(18):2335-2340.
27. **Tran, L.T.**, O'Neill, R.V., Smith, E.R. (2009). Environmental Integrated Assessment via Monte Carlo simulation with a Case Study of the Mid-Atlantic Region, USA. *Environmental Management*, 44(2): 387-393.
28. Saaty, T.L. and **Tran, L.T.** (2010). Fuzzy Judgments and Fuzzy Sets. *International Journal of Strategic Decision Sciences*, 1(1): 23-40.
29. **Tran, L.T.**, O'Neill, R.V., Smith, E.R. (2010). Spatial pattern of environmental vulnerability in the Mid-Atlantic region, USA. *Applied Geography*, 30(2):191-202.
30. **Tran, L.T.**, O'Neill, R.V., Smith, E.R. (2012). A watershed-based method for environmental vulnerability assessment with a case study of the Mid-Atlantic Region. *Environmental Impact Assessment Review*, 34: 58-64.

31. **Tran, L.T.**, O'Neill, R.V., Smith, E.R., Bruins, R., and Harden, C. (2013). Application of Hierarchy Theory to Cross-Scale Hydrologic Modeling of Nutrient Loads. *Water Resources Management*, 27(5): 1601-1617.
32. **Tran, L.T.**, O'Neill, R.V. (2013). Detecting the effects of land use/land cover on mean annual streamflow in the Upper Mississippi River Basin, USA. *Journal of Hydrology*, 499(30): 82–90.
33. Luffman, I. and **Tran, L.T.** (2014). Risk factors for E. coli O157 and cryptosporidiosis infection in individuals in karst valleys of East Tennessee, USA. *Geosciences*, 4(3): 202-218.
34. **Tran, L.T.**, O'Neill, R.V., Bruins, R., Smith, E.R., and Harden, C. (2015). Linking land use/land cover with climatic and geomorphologic factors in regional mean annual streamflow models with spatial regression approach. *Progress in Physical Geography*, 39(2): 258-274.
35. **Tran, L.T.** (2016). An Interactive Method to Select a Set of Sustainable Urban Development Indicators. *Ecological Indicators*, 61(2): 418–427.
36. Beddingfield, C., Burr, D.M., **Tran, L.T.** (2016). Polygonal impact craters on Dione: Evidence for tectonic structures outside the Wispy Terrain. *Icarus*, 274: 163–194.
37. McManamay RA, Nair SS, DeRolph CR, Ruddell BL, Morton AM, Stewart RN, Troi MJ, **Tran L**, Kim H, Bhaduri BL (2017). US cities can manage national hydrology and biodiversity using local infrastructure policy. *Proceedings of the National Academy of Sciences*. (received the Ecological Society of America's 2020 Sustainability Science Award)
38. Fagan, K, Willcox, E, **Tran, L**, Bernard, R, Stiver, W (2018). Roost Selection by Bats in Buildings in the Southeastern United States. *Journal of Wildlife Management*, 82(2), 424-434.
39. Liang, W, **Tran, L**, Washington-Allen, R, et al. (2018). Predicting the potential invasion of kudzu bug, *Megacopta cribraria* (Heteroptera: Plataspidae), in North and South America and determining its climatic preference. *Biological Invasions* <https://doi.org/10.1007/s10530-018-1743-y>. Vol.20 (10), p.2899-2913
40. Martin, D.J., Harden, C.P., **Tran, L.** , Pavlowsky, R.T. (2018). Investigating patterns of in-channel wood deposition locations in a low-gradient, variably confined river system. *Progress in Physical Geography* 42(2):139-161.
41. **Tran, L**, McManamay R, Kim H (2018). A non-parametric distance-based method using all available indicators for integrated environmental assessment – a case study of the Mid-Atlantic Region, USA. *Journal of Environmental Planning and Management*, 1-13 01 Apr 2018. DOI: 10.1080/09640568.2018.1441812
42. Liang, W., Papes, M., **Tran, L.**, Grant, J., Washington-Allen, R., Stewart, S., & Wiggins, G. (2018). The effect of pseudo-absence selection method on transferability of species distribution models in the context of non-adaptive niche shift. *Ecological Modelling*, 388, 1-9. doi:10.1016/j.ecolmodel.2018.09.018
43. Nepal, S., & **Tran, L. T.** (2019). Identifying trade-offs between socio-economic and environmental factors for bioenergy crop production: A case study from northern Kentucky. *Renewable Energy*, 142, 272-283. doi:10.1016/j.renene.2019.04.110

44. Liang, W., **Tran, L.**, Wiggins, G. J., Grant, J. F., Stewart, S. D., & Washington-Allen, R. (2019). Determining Spread Rate of Kudzu Bug (Hemiptera: Plataspidae) and Its Associations With Environmental Factors in a Heterogeneous Landscape. *Environmental Entomology*, 48(2), 309-317. doi:10.1093/ee/nvz014
45. Gathongo, N., & **Tran, L.** (2019). Assessing Social vulnerability of Villages in Mt. Kasigau Area, Kenya, Using the Analytical Hierarchy Process. *GeoJournal*. <https://doi.org/10.1007/s10708-019-10004-6>.
46. Tran, P., Tran, L., **Tran, L.** (2019). Impact of rurality on diabetes screening in the US. *BMC public health*, Vol.19(1), pp.1190-1199. doi: 10.1186/s12889-019-7491-9
47. Peel, S. E., Burr, D. M., & **Tran, L.** (2019). Formation of Central Pits in Impact Craters on Mars: A Statistical Investigation of Proposed Mechanisms. *Journal of Geophysical Research-Planets*, 124(2), 437-453. doi:10.1029/2018JE005738
48. Tran, P., Tran, L., **Tran, L.** (2019). A Cross-Sectional Analysis of Differences in Physical Activity Levels between Stroke Belt and Non-Stroke Belt US Adults. *Journal of Stroke and Cerebrovascular Diseases*, vol. 28(12).
49. Cochran, F., Jackson, L., Neale, A., Lovette, J., **Tran, L.** (2019). A Community EcoHealth Index from EnviroAtlas Ecosystem Services Metrics. *International Journal of Environmental Research and Public Health*, 16, 2760; doi:10.3390/ijerph16152760
50. Tran, L., Tran, P., & **Tran, L.** (2020). A cross-sectional analysis of racial disparities in US diabetes screening at the national, regional, and state level. *Journal of Diabetes and its Complications*. Vol.34(1). DOI: 10.1016/j.jdiacomp.2019.107478
51. Tran, L., Tran, P., & **Tran, L.** (2020). Influence of rurality on HIV testing practices across the United States, 2012–2017. *AIDS and Behavior*, 24:404–417 doi:10.1007/s10461-019-02436-5
52. **Tran, L.**, Barzyk, T., Ridgley, M., & O'Neill, R. (2020). Prioritizing community environmental concerns with a hybrid approach to multi-criteria decision-making – a case study of Newport News, Virginia, USA. *Journal of Environmental Planning and Management*, 63:14, 2501-2517, DOI: 10.1080/09640568.2020.1731439
53. Tran, P., Tran, L., **Tran, L.** (2020). Smoking levels and associations between sociodemographic factors and smoking continuation in U.S. stroke survivors. *Annals of Epidemiology*, Vol.43, pp.66-70. DOI: 10.1016/j.annepidem.2020.01.007
54. Alsamadisi, A., **Tran, L.**, Papeş, M. (2020). Employing inferences across scales: Integrating spatial data with different resolutions to enhance Maxent models. *Ecological Modelling*, 01 January 2020, Vol.415(1). <https://doi.org/10.1016/j.ecolmodel.2019.108857>
55. Tran, L., Tran, P., & **Tran, L.** (2020). A cross-sectional analysis of 2017 stroke symptoms recognition at the US regional level. *Chronic Illness*. DOI: 10.1177/1742395320905650
56. Tran, P., Tran, L., **Tran, L.** (2020). Sociodemographic, Socioeconomic, and Clinical factors associated with Diabetes Screening in Asian Americans. *Journal of Public Health*. DOI: 10.1007/s10389-020-01267-2

57. Liang, W., Abidi, M., Carrasco, L., Mcnelis, M., **Tran, L.**, Li, Y., and Grant, J. (2020). Mapping Vegetation at Species Level with High-Resolution Multispectral and Lidar Data Over a Large Spatial Area. *Remote Sensing* 12(4):609. DOI: 10.3390/rs12040609
58. Tran, L., Tran, P., & **Tran, L.** (2020). A cross-sectional examination of sociodemographic factors associated with meeting physical activity recommendations in overweight and obese US adults. *Obesity Research & Clinical Practice*, Vol.14(1), pp.91-98. OI: 10.1016/j.orcp.2020.01.002
59. Nepal, S., **Tran, L.** & Hodges, D.G. (2020). Determinants of Landowners' Willingness to Participate in Bioenergy Crop Production: A Case Study from Northern Kentucky. *Forests*, vol 11(10), 1052; <https://doi.org/10.3390/f11101052>
60. Liang, W., **Tran, L.**, Grant, J. & Srivastava, V. (2020). Estimating Invasion Dynamics with Geopolitical Unit-Level Records: The Optimal Method Depends on Irregularity and Stochasticity of Spread. *Sustainability* 2020, 12(20), 8526; Special Issue "Feature Papers in Sustainable Use of the Environment and Resources" <https://doi.org/10.3390/su12208526>
61. Tran, L., Tran, P., & **Tran, L.** (2020). A cross-sectional analysis of electronic cigarette use in US adults with asthma. *The Clinical Respiratory Journal*, 14(3). DOI: 10.1111/crj.13231
62. Tran, P., Tran, L., & **Tran, L.** (2020). A cross-sectional analysis of binge drinking levels in US myocardial infarction survivors. *Heart & Lung: the Journal of Critical Care*. DOI: 10.1016/j.hrtlng.2020.10.003
63. Tran, P., Tran, L., & **Tran, L.** (2020). Geographic Variation in Employment for U.S. Adults by Visual Impairment status. *Journal of Visual Impairment & Blindness*.
64. Tran, P., Tran, L., & **Tran, L.** (2021). Influence of sexual orientation on diabetes management in US adults with diabetes. *Diabetes & Metabolism*, 47(1), article 101177. <https://doi.org/10.1016/j.diabet.2020.07.004>
65. Tran, P., Tran, L., & **Tran, L.** (2021). A comparison of routine diabetes screening by sexual orientation in US adults. *Practical Diabetes*, 38(1):17-21a. <https://doi.org/10.1002/pdi.2315>
66. Tran, P., Tran, L., & **Tran, L.** (2021). A comparison of post-stroke hypertension medication use between US Stroke Belt and Non-Stroke Belt residents. *Journal of Clinical Hypertension*. DOI: 10.1111/jch.14213
67. Tran, P., Tran, L., & **Tran, L.** (2021). The influence of social distancing on COVID-19 mortality in US counties: Cross-Sectional Study. *JMIR Public Health and Surveillance*. Vol 7, No 3. DOI: 10.2196/21606
68. Burow, D., Ellis, K., & **Tran, L.** (2021). Simultaneous and collocated tornado and flash flood warnings associated with tropical cyclones in the contiguous United States. *International Journal of Climatology*, 12 pages. doi:10.1002/joc.7071
69. Nisengwe, J. F. R., Willcox, A., & **Tran, L.** (2021). Perceptions of Natural Resources Use in Rwanda - A Partial Proportional Odds Model. *East African Journal of Environment and Natural Resources*, 3(1).
70. Tran, P., Tran, L., & **Tran, L.** (2022). A cross-sectional comparison of US adult diabetes screening levels by disability status. *The Journal of Primary Prevention*. [In press]

71. Zhu, Qi; **Tran, Liem T**; Wang, Yan; Qi, Lin; Zhou, Wangming; Zhou, Li; Yu, Dapao; Dai, Limin (2022). A framework of freshwater services flow model into assessment on water security and quantification of transboundary flow: A case study in northeast China. *Journal of environmental management*, Vol.304, p.114318-114318
72. Tran, P., Tran, L., Zhu, C., & **Tran, L.** (2023). US insufficient sleep trends between 2011-2020 by Visual impairment/Blindness status using cross-sectional Behavioral Risk Factor Surveillance System survey data. *The Journal of Visual Impairment & Blindness*. [In press]

Book chapters

- Tran, L.T.**, Nearing, M., Duckstein, L., Ridgley, M. and Sutherland, R. (2002). Using fuzzy logic-based modeling to improve the performance of the Revised Universal Soil Loss Equation. In: D.E. Stott, R.H. Mohtar, and G.C. Steinhardt (eds), *Sustaining the Global Farm – Selected papers from the 10th International Soil Conservation Organization Meeting, May 24-29, 1999, West Lafayette, IN*. International Soil Conservation Organization in cooperation with the USDA and Purdue University, West Lafayette, IN. CD-ROM available from the USDA-ARS National Soil Erosion Laboratory, West Lafayette, IN. Web site <http://topsoil.nserl.purdue.edu/nserlweb/isco99/pdf/isco99pdf.htm> (verified 2 May 2002), pp. 919-923.
- Tran, L.T.**, Jarnagin, S.T., Knight, C.G., and Baskaran, L. (2004). Mapping spatial accuracy and estimating ecological indicators from thematic land cover maps using fuzzy set theory. In Lunetta, R.S., and J.G. Lyon (Editors), *Remote Sensing and GIS—Accuracy Assessment*. CRC Press, Boca Raton, FL.
- Tran, L.T.**, and Knight, C.G. (2004). The Balkan and European context of the drought. In Knight, C.G., Raev, I., and Staneva, M.P. (Eds.), *Bulgarian Drought: A Contemporary Analog for Climate Change*.
- Thomas L. Saaty and **Tran, L.T.** (2012). Fuzzy Judgments and Fuzzy Sets; in Tavana, M. (Ed.), *Decision Making Theories and Practices from Analysis to Strategy*. IGI Global.

Peer-Reviewed Technical Report

- Smith, E.R., **Tran, L. T.**; and O'Neill, R. V. (2003). *Regional Vulnerability Assessment for the Mid-Atlantic Region: Evaluation of Integration Methods and Assessment Results*. The U.S. Environmental Protection Agency, Technical Report: EPA/600/R-03/082, October 2003.
- Paul F. Wagner, O'Neill, R.V., **Tran, L.T.**, Mehaffey, M., Wade, T., and Smith, E.R. (2006). *Regional Vulnerability Assessment for the Mid-Atlantic Region: Forecasts to 2020 and Changes in Relative Condition and Vulnerability*. The U.S. Environmental Protection Agency, Technical Report: EPA/600/R-06/088, September 2006.

Papers published in Proceedings

- Sutherland, R., Ziegler, A. D. and **Tran, L.** (1997). Rolled erosion control systems and their effect on sediment redistribution by rainsplash - A laboratory investigation. *Proceedings*

of the Conference 28 of the International Erosion Control Association, Feb 25-28, 1997, Nashville, Tennessee, pp. 428-443.

Schwartz, J. S., Blanton, B., Hathaway, J. M., & **Tran, L.** (2018). Effect of Urbanization on Base Flow Hydrology among Watersheds in Eastern United States.

Reports

Tran, L. T., Cyr, H. J., Horn, S. P., & McKay, L. (2017). Phase I Paleoflood Investigations on the Upper Tennessee River. Final report submitted to the Electric Power Research Institute.

Cyr, H., Horn, S., Tran, L., & McKay, L. (2017). Phase I Paleoflood Field Investigations on the Upper Tennessee River: Field Work to Support the Desk-Top Survey. Report submitted to the Electric Power Research Institute.

Tran, L., Horn, S., McKay, L., & Cyr, H. J. (2017). Phase I Paleoflood Desktop Survey on the Upper Tennessee River. Report submitted to the Electric Power Research Institute.

Posters

Manka, B., Schwartz, J. S., & **Tran, L.** (2017). Evaluating water supply conflicts between urban and agricultural uses. Poster session presented at the meeting of ASCE/ EWRI World Water & Environmental Resources Congress; Sacramento, California.

Fritz, B., **Tran, L.**, Horn, S., & McKay, L. (2017). Detecting Sinkholes with Potential for the Deposit of Paleoflood Sediments in the Upper Mississippi River Basin. Poster session presented at the meeting of Annual meeting of the Southeastern Division of the Association of American Geographers, 19-20 November 2017, Starkville, Mississippi.

Invited talks/lectures/seminars

Tran, L.T. (2013). Hierarchy Theory as a Bridge between Epidemiological studies & space-time GIS. An invited talk at the Geography Department's colloquium, University of Kentucky, October 11, 2013.

Tran, L.T. (2013). Regional integrated environmental assessment in the U.S.: progress and challenges. An invited paper presented at the 2013 China-US Annual conference: Environmental Health and Green Development. November 18-19, 2013. Gatlinburg, TN, USA.

Tran, L.T. (2014). Regional integrated environmental assessment for sustainable development. An invited seminar presented at Vietnam National University-HCMC, Vietnam, Thursday, June 5, 2014.

Tran, L.T. (2014). Determine the most influencing stressors and the most susceptible resources for regional integrated environmental assessment. A keynote address at the 2014 China-US Joint Annual Symposium on Water, Energy, and Ecosystem Sustainable Development, October 26-28, 2014, Hefei, Anhui, China.

Tran, L.T. (2014). An overview of methods for regional integrated environmental assessment. Invited seminar, China Ecological Forum, a Comprehensive Academic Forum on Ecology in China, Chinese Academy of Sciences, Beijing, China, October 31, 2014.

- Tran, L.T.** (2015). Connecting Science, Decision Making, and Community – An EPA Outsider’s View and Experience. A seminar given to EPA lab/branch managers and scientists. Research Triangle Park, NC. November 9, 2015.
- Tran, L.** (2016). Isn’t General Systems Theory Outdated? A Geographer’s Personal Experience (from Collaborative Research with EPA). A seminar given to EPA lab/branch managers and scientists. Research Triangle Park, NC. September 6, 2016.
- Tran, L.** (2016). Geospatial Revolution: Mapping Power to the People. A seminar given to the UTK Honors Program. September 15, 2016.
- Tran, L.T.** (2017). The Use of Various Integrated Assessment Methods in EnviroAtlas. An invited talk given to the EPA EnviroAtlas project’s scientists and staff. Research Triangle Park, NC. June 21, 2017.
- Tran, L.T.** (2017). Is Analytical Network Process Applicable to the EPA’s PORTS project? An invited talk given to the EPA PORTS project’s scientists and staff. Research Triangle Park, NC. June 22, 2017.
- Tran, L.** (2018). How to be Ready in an Era of Interdisciplinary Research and Big Data?. School of Engineering, Vanderbilt University. Invited by the School of Engineering, Vanderbilt University. 23 Mar 2018
- Tran, L. (2018). Mapping Ecosystem Services for Everyone - Connecting People, Nature, Health, and the Economy. UTK MicNite Spring 2018. 08 Mar 2018
- Tran, L. (2018). Connecting Science, Decision Making, & Community An 18-years collaboration. Tennessee Water Resources Research Center. Invited by Tennessee Water Resources Research Center. 06 Mar 2018

Presentations at technical and professional meetings

- El-Kadi, A.I., Yabusaki, K., **Tran, L.T.**, and Ling, G.G. (1996). Nitrate contamination in Central Oahu's groundwater. A paper presented at the Water Resources Research Center Conference, June 12-14, 1996, Honolulu, Hawaii.
- Ridgley, M.A., and **Tran, L.T.** (1996). Multiobjective optimization for community-state coordination of urban water, sanitation, and pollution control. A communication presented at the Second International Conference in Multiobjective Programming and Goal Programming (MOPGP'96), May 15-18, 1996, Torremolinos, Spain.
- Tran, L.T.** (1996). Fuzzy goal programming and fuzzy composite programming with application to land-use management and water reallocation: a case of Central Oahu, Hawaii. A paper presented at The 5th Conference of EWC Participants, February 1996, Honolulu, Hawaii.
- Sutherland, R., Ziegler, A. D., and **Tran, L.** (1997). Rolled erosion control systems and their effect on sediment redistribution by rainsplash - A laboratory investigation. A paper presented at the Conference 28 of the International Erosion Control Association, Feb 25-28, 1997, Nashville, Tennessee.
- Tran, L.T.**, and Duckstein, L. (1998). Application of multi-objective fuzzy regression to erosion prediction. A poster presented at the 1998 Fall Meeting of the American Geophysical Union, December 6-10, 1998, San Francisco, California.

- Tran, L.T.**, and Leung, P.S. (1998). Predicting shrimp disease occurrence: artificial neural networks vs. logistic regression. A paper presented at Aquaculture 98 Conference, February 15-19, 1998, Las Vegas, Nevada.
- Tran, L.T.**, Leung, P.S., and Fast, A. (1998). Identifying factors affecting disease occurrence on Asian shrimp farms using logistic regression model. A paper presented at the Fifth Asian Fisheries Forum, November 11-14, 1998, Chiangmai, Thailand.
- Tran, L.T.**, Lewis, N., Hamnett, M., and Prasad, U. (1999). The relationship between climate variability due to El Nino Southern Oscillation and dengue fever incidence: a case study in French Polynesia using fuzzy regression. A paper presented at the 95th Association of American Geographers Annual Meeting, March 23-27, 1999, Honolulu, Hawaii.
- Tran, L.T.**, Nearing, M., Duckstein, L., Ridgley, M. and Sutherland, R. (1999). Using fuzzy logic-based modeling to improve the performance of the Revised Universal Soil Loss Equation. A paper presented at the 10th International Soil Conservation Organization Conference, May 23-28, 1999, West Lafayette, Indiana.
- Tran, L.T.**, and Duckstein, L. (2000). Fuzzy piecewise linear regression with application to soil erosion prediction. A poster presented at the 96th Association of American Geographers Annual Meeting, April 4-8, 2000, Pittsburgh, Pennsylvania.
- Tran, L.T.**, and Knight, C.G. (2000). Applying fuzzy decision analysis for integrated environmental vulnerability assessment, a case study of the Mid-Atlantic region. A poster presented at the EPA's ReVA workshop at Research Triangle Park, North Carolina. Sep. 12-14, 2000.
- Tran, L.T.**, Knight, C.G., O'Neill, R.V., Smith, E.R., Riitters, K.H., and Wickham, J. (2001). Fuzzy decision analysis for integrated vulnerable assessment of the Mid-Atlantic region. A paper presented at the AAG 2001 meeting at New York, NY. Feb 27-Mar 3, 2001.
- Tran, L.T.**, Knight, C.G., O'Neill, R.V., Smith, E.R., Riitters, K.H., and Wickham, J. (2001). Fuzzy decision analysis for integrated vulnerable assessment. A paper presented at the 16th Annual Symposium of the International Association of Landscape Ecology – U.S. Chapter at Tempe, Arizona, April 25-29, 2001.
- Tran, L.T.**, Knight, C.G., O'Neill, R.V., and Smith, E.R. (2001). Self-organizing maps for integrated environmental assessment of the U.S. mid-Atlantic region. A poster presented at the EPA's ReVA workshop at Research Triangle Park, North Carolina. Oct. 29-30, 2001.
- Tran, L.T.**, Jarnagin, S.T., Wickham, J., and Baskaran, L. (2001). Mapping spatial accuracy and estimating ecological indicators from thematic land cover maps using fuzzy set theory: some initial results. A poster presented at the EPA's ReVA workshop at Research Triangle Park, North Carolina. Oct. 29-30, 2001.
- Tran, L.T.**, Wickham, J.D., Jarnagin, S.T., Knight, C.G., and Baskaran, L. (2001). Mapping spatial accuracy and estimating ecological indicators from thematic land cover maps using fuzzy set theory. A paper presented at the Remote Sensing and GIS Accuracy Assessment Symposium, Las Vegas, Nevada, December 11-13, 2001.

- Tran, L.T.,** Knight, C.G., O'Neill, R.V., and Smith, E.R. (2002). Two-level self-organizing maps for integrated environmental assessment of the U.S. mid-Atlantic region. A paper presented at the AAG 2002 meeting at Los Angeles, CA. Mar 19-23, 2002.
- Tran, L.T.** (2003). A conceptual framework on data for land-use/land-cover change research at local and small scales. A paper presented at the 99th AAG 2003 meeting at New Orleans, LA. Mar 5-8, 2002.
- Tran, L.T.,** Knight, C.G., O'Neill, R.V., and Smith, E.R. (2003). A Fuzzy Decision Analysis Method for Regional Environmental Assessment of the Mid-Atlantic Region. A poster presented at the ReVA-MAIA 2003 Conference "Using Science to Assess Environmental Vulnerabilities" at King of Prussia, PA. May 19-23, 2003.
- Tran, L.T.,** Knight, C.G., O'Neill, R.V., and Smith, E.R. (2003). An Integrated Framework for Uncertainty Analysis in Regional Environmental Assessment. A poster presented at the ReVA-MAIA 2003 Conference "Using Science to Assess Environmental Vulnerabilities" at King of Prussia, PA. May 19-23, 2003.
- Tran, L.T.** and O'Neill, R.V. (2007). Watershed-Based Self- and Peer-Appraisal Indices for Integrated Environmental Assessment with a Case Study of the Mid-Atlantic Region. A paper presented at the 99th AAG 2007 meeting in San Francisco, CA. Apr 17-21, 2007.
- Tran, L.T.** (2007). Using Multi-Criteria Decision Analysis to Support Environmental Decision Making. A paper presented at the workshop on ORD's Ecological Research Program and Proposed Biofuels Study ("Future Midwestern Landscapes" Study); Chicago, IL; May 8-10, 2007.
- Tran, L.T.** and O'Neill, R.V. (2008). Regional Environmental Vulnerability Assessment with Fuzzy Sets and Multi-Objective Optimization – A Case Study of the Mid-Atlantic Region, U.S.A. A paper presented at the 100th AAG 2008 meeting in Boston, MA, Apr 14-19, 2008.
- Tran, L.T.,** O'Neill, R.V., and Smith, E.R. (2009). A watershed-based method for environmental vulnerability assessment with a case study of the Mid-Atlantic region. A paper presented at the 100th AAG 2009 meeting in Las Vegas, NV, Mar 22-27, 2009.
- Tran, L.T.** (2010). Design a Multiple-Ecosystem Services Landscape for the Midwest, USA, with Compromise Programming. A paper presented at the 100th AAG 2010 meeting in Washington, DC, April 14-18, 2010.
- Tran, L.T.** (2010). Regional-scale hydrologic modeling for ecosystem services assessment: considerations, progress, and lessons. A paper presented at the EPA ORD ESRP Third Annual Science Conference, Green Valley Ranch, NV; October 19-21, 2010
- Streufert, J., **L. Tran,** E.V. Smith, R. Bruins (2010). E-DASH – Environmental Decision Analysis & Support Heuristics – A Spatial Multi-Criteria/Multi-Objective Environmental Decision Tool for Regional Ecosystem Services Assessment. A poster presented at the EPA ORD ESRP Third Annual Science Conference, Green Valley Ranch, NV; October 19-21, 2010
- Tran, L.T.,** O'Neill, R.V., and Smith, E.R. (2012). RHyME2 – a Regional Hydrologic Modeling for Environmental Evaluation. A paper presented at the AAG 2012 AAG Annual Meeting, New York, NY, February 24-28, 2012.

- Tran, L.T.** (2012). Effect of land use on mean annual streamflow at regional scale. A paper presented at the 2012 UT Watershed Symposium, September 18, 2012
- Tran, L.T., O'Neill, R.V., Nasrin Alamdari, and Vi Tran** (2012). Gone with the.... Water: Mississippi River Hydrologic Modeling with a Geographic Approach. A paper presented at the UTK Geography Colloquium Series, November 8th, 2012
- Tran, L.T.** (2012). RHyME2 – Hydrologic Modeling with a Geographic Approach. A paper presented at the Florida Atlantic University, November 9th, 2012 (invited)
- Tran, L.T.** (2012). Detecting the Effects of Land Use/Land Cover on Mean Annual Streamflow in the Upper Mississippi River Basin, USA. A paper presented at the 67th SEDAAG Meeting, Asheville, North Carolina, November 18-20, 2012
- Baskaran, L., Dale, V., **Tran, L.T.** (2013). Cross-Scale Analysis of Factors Affecting Aquatic Macroinvertebrate Distribution in Tennessee. A paper presented at the AAG 2013 AAG Annual Meeting, Los Angeles, CA, April 9-13, 2013.
- Tran, L.T., O'Neill, R.V.** (2013). Hierarchy Theory & Cross-Scale Hydrologic Modeling. A paper presented at the AAG 2013 AAG Annual Meeting, Los Angeles, CA, April 9-13, 2013.
- O'Neill, R.V., **Tran, L.T.** (2013). Cross-Scale Hydrologic Modeling for Annual NUTRIENT Load. A paper presented at the AAG 2013 AAG Annual Meeting, Los Angeles, CA, April 9-13, 2013.
- Tran, V., **Tran, L.T.** (2013). Geospatial Regression Models for Regional and Sub-Regional Mean Annual Stream flow. A paper presented at the AAG 2013 AAG Annual Meeting, Los Angeles, CA, April 9-13, 2013.
- Tran, L.T., O'Neill, R.V.** (2013). Hierarchy Theory as a Bridge between Epidemiological studies and Space-Time GIS Analyses. A paper presented at the XV International Symposium in Medical/Health Geography, East Lansing, MI, July 7-12, 2013.
- Tran, L.T.** (2014). Detecting the Effects of Land Use/Land Cover on Mean Annual Streamflow in the Tennessee River Basin. A paper presented at the 2014 UT Watershed Symposium, February 18, 2014.
- Tran, L.T., O'Neill, R.V.** (2014). Applying Hierarchy Theory to Epidemiological Studies via Multilevel Modeling. A paper presented at the 2014 AAG Annual Meeting, April 8-12, 2014, Tampa, Florida.
- Tran, L.T.** (2014). Determine the Most Influencing Stressors and the Most Susceptible Resources for Regional Integrated Assessment. A keynote address at the 2014 China-US Joint Annual Symposium – Water, Energy, and Ecosystem Sustainable Development. October 26-28, 2014. Hefei, China.
- Tran, L.T.** (2014). Analyzing Potential Impact of Data Uncertainties on Regional Relative Environmental Vulnerability. A paper presented at the 2014 SEDAAG Annual Meeting, November 23-25, 2014, Athens, GA.
- Gathongo, N, **Tran, L.,** (2014). Analysis of Change in Population and Land Use Land Cover Changes in Taita Taveta, Kenya. A paper presented at the 2014 SEDAAG Annual Meeting, November 23-25, 2014, Athens, GA.

- Beddingfield C. B. Burr D. M., **Tran L. T.** (2015). Testing for Non-Visible Fractures on Dione by Identifying Polygonal Impact Craters. A poster presentation at the 46th Lunar and Planetary Science Conference, March 16-20, 2015; The Woodlands, TX.
- Tran, L.T.** (2015). Determine the Relative Contribution of Interrelated Variables in a Spatial Hierarchical Network. A paper presented at the 2015 AAG Annual Meeting, April 21-27, 2015, Chicago, IL.
- Gathongo, N, **Tran, L.,** (2015). Assessing Vulnerability of Jora and Makwasinyi Villages at Mt. Kasigau, Kenya using an Impact Tree Diagram. A paper presented at the 2015 AAG Annual Meeting, April 21-27, 2015, Chicago, IL.
- Tran, L.T.** (2015). An Interactive Method to Select Indicators for Urban Sustainability Assessment. A paper presented at the 2015 SEDAAG Annual Meeting, November 22-24, 2015, Pensacola, Florida.
- Tran, L.T.** (2016). Balancing Indicators for Sustainability Assessment. A paper presented at the University of Tennessee Geography Research Symposium (GeoSym) 2016, February 5-6, 2016.
- Tran, L.T.,** Chen, J., Shaw, S-H., (2016). How cab drivers in Wuhan, China, make routing decision—Determine the Relative Importance of Interrelated Variables in a Large Spatial Dataset. A paper presented at the 2016 AAG Annual Meeting, March 29-April 2, 2016, San Francisco, CA.
- Gathongo, N, **Tran, L.,** (2016). A Geospatial Approach for Assessing Vulnerability of Human and Natural Systems at Mt. Kasigau, Kenya. A paper presented at the 2016 AAG Annual Meeting, March 29-April 2, 2016, San Francisco, CA.
- Nepal, S, **Tran, L.T.** (2016). Catchment-based optimization for land use for bioenergy crops under uncertainty for sustainable development. A paper presented at the 2016 AAG Annual Meeting, March 29-April 2, 2016, San Francisco, CA.
- Tran, L.,** McKay, L, Horn, S., and Cyr, H (2016). A multi-level landscape/landform classification to identify possible sites for paleoflood deposit investigation. A paper presented at the Fifth International Paleoflood Conference Rapid City, South Dakota, USA September 12-15, 2016.
- Gathongo, N, **Tran, L.,** (2016). Patterns of Land Cover Changes at Mt. Kasigau. A paper presented at the 2016 SEDAAG Annual Meeting, November 20-22, 2016, Columbia, SC.
- Golder K. B., Burr D. M., **Tran L. T.** (2017). Constraining the Controlling Parameter(s) for the Emplacement of Long Lava Flows on Mars: A Quantitative Modeling Approach. A poster presentation at the 48th Lunar and Planetary Science Conference, March 20-24, 2017; The Woodlands, TX.
- Tran, L.T.** (2017). Making sense of big data across scales with hierarchy theory Scaling up variability in population & socioeconomic data from the Census. A paper presented at the 2017 AAG Annual Meeting, April 5-9, 2017, Boston, MA.
- Gathongo, N, **Tran, L.,** (2017). Examining the vulnerability of the natural systems using the landscape metrics and vegetation Indices. A paper presented at the 2017 AAG Annual Meeting, April 5-9, 2017, Boston, MA.

- Nepal, S, **Tran, L.T.** (2017). Optimal allocation of land for bioenergy crops under market and production uncertainties. A paper presented at the 2017 AAG Annual Meeting, April 5-9, 2017, Boston, MA.
- Tran, L. T., McKay, L., Horn, S., & Cyr, H. (2016, September 12). A multi-level landscape/landform classification to identify possible sites for paleoflood deposit investigation. In Fifth International Paleoflood Conference. Rapid City, South Dakota, USA.
- Golder, K., Burr, D. M., & **Tran, L. T.** (2017, March 20). Constraining the Controlling Parameter(s) for the Emplacement of Long Lava Flows on Mars: A Quantitative Modeling Approach. In 48th Lunar and Planetary Science Conference. The Woodlands, TX.
- Horn, S., Cyr, H., Boehm, M., Perilla-Castillo, P., McKay, L., & **Tran, L.** (2018, April 10). Stratigraphic Evidence of Late Holocene Flooding Along the Tennessee River. In Annual meeting of the American Association of Geographers. New Orleans, Louisiana.
- Fritz, B., **Tran, L.**, Horn, S., & McKay, L. (2018, April 10). Detecting Sinkholes with Potential for the Deposit of Paleoflood Sediments in the Upper Tennessee River Basin. In Annual meeting of the American Association of Geographers. New Orleans, Louisiana.
- McKay, L., Cyr, H., **Tran, L.**, & Horn, S. (2017, October 22). Sedimentary Signature of Holocene Flood Deposits in Upper Reaches of the Tennessee River. In Annual meeting of the Geological Society of America. Seattle, Washington.
- Tran, L., Horn, S., McKay, L., & Cyr, H. (2017, November 19). A Paleoflood Desktop Survey On The Upper Tennessee River. In Annual meeting of the Southeastern Division of the Association of American Geographers. Starkville, Mississippi.
- Tran, L.** (2018, April 10). Determine a suitable spatial extent for integrated ecosystem services assessment across the conterminous US with wavelet variance analysis. In AAG 2018 Annual Meeting. New Orleans, LA.
- Ferdouz, C., **Tran, L.**, Jackson, L., Mehaffey, M., Neale, A., & Smith, B. (2018, April 10). Creating Ecosystem Services Indices with EnviroAtlas Metrics. In AAG 2018 Annual Meeting. New Orleans, LA.
- Nepal, S., **Tran, L.**, Hodges, D. G., & van Riemsdijk, M. (2018, April 10). Landowners' perceptions on bioenergy and their willingness to grow bioenergy crops – A case-study in northern Kentucky, USA. In Annual meeting of the American Association of Geographers. New Orleans, Louisiana.
- Gathongo, N., & **Tran, L.** (2018, April 10). Assessing the Vulnerability of the Natural System at Mt. Kasigau, Kenya Utilizing AHP Methodology. In Annual meeting of the American Association of Geographers. New Orleans, Louisiana.
- Reed, E., & **Tran, L.** (2018, February 15). Risk of Contamination from Oil and Gas Drilling to Groundwater in Tennessee. In UTK GeoSym 2018. UTK.
- Tran, L.** (2018, February 15). A Non-Parametric Distance-Based Method for Integrated Environmental Assessment. In UTK GeoSym 2018. UTK.

- Tran, L., Nagle, N., Wu, Q., & Tran, L. (2019). Measuring Spatial Dependence to Understand the Three Inseparable Issues in Geography—Scale, Spatial Dependence, and Spatial Heterogeneity. In Association of American Geographers (AAG). Denver, CO.
- Tran, L. (2019). Big Data and the Old Scale Issues. In AAG 2019 Annual Conference. Washington, DC.
- Fritz, B., Tran, L., Horn, S., & McKay, L. (2019). Creating an Enhanced Sinkhole Dataset for the Upper Tennessee River Basin. In Annual meeting of the American Association of Geographers. Washington, D.C..
- Tran, L., Nagle, N., Wu, Q., & Tran, L. (2021). The interconnectedness among scale, spatial dependence, and spatial heterogeneity in geographical systems. In AAG 2021. Seattle, WA.
- Tran, P., Tran, L., Zhu, C., & Tran, L. (2022). US insufficient sleep trends between 2011-2020 by Visual impairment/Blindness status using cross-sectional Behavioral Risk Factor Surveillance System survey data. A virtual poster presentation at the 28th Annual Rural Health Association of Tennessee Conference. November 16-18, 2022, Pigeon Forge, Tennessee, USA. Winner in the Faculty Category.
- Tran, P., Shelton, B., & Tran, L. (2023) Comparisons of short sleep duration among US rural and urban women with prediabetes. A poster presentation at the 2023 Tennessee Public Health Association (TPHA) East Grand Division Meeting. April 6, 2023. Knoxville, Tennessee, USA.

Software / Code

- Tran, L. (2018). EPA EnviroAtlas' Integrated Vulnerability Assessment [R codes].
- Tran, L. (2018). EPA EnviroAtlas' 3-level Analytical Hierarchical Process model [R codes].
- Tran, L. T. (2017). EnviroAtlas' Integrated Community Assessment [Computer Software].
- Tran, L. T. (2017). EnviroAtlas' Integrated Ecoregion Assessment [Computer Software].
- Tran, L. T. (2017). EPA's Community Cumulative Assessment Tool (CCAT) [Computer Software].

Other products

- Tran, L. (2020). Covid 19 transmission rate modeling: posted on Tennessee State Data Center's dashboard at: <https://tiny.utk.edu/trackingCOVID19>
- Tran, L. (2020). TENNESSEE COVID-19 Hospital Resources & Vulnerable Populations in Tennessee. Retrieved from <https://storymaps.arcgis.com/stories/408ac270680043a4a85cbb2a546ad510>
- Tran, L. (2020). TN Overlapping opioid benzo prescriptions 2012-2017 dashboard: <https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/44cb83fa43894bba906b3e2e39bac351>
- Tran, L. (2020). Tennessee Opioid Multiple-Provider Episode (MPE) dashboard: <https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/c8833c350fee4ecd92c18d16ed3e13d4>

Tran, L. (2020). TN Overlapping opioid prescriptions 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/4585c9864a394a80b2c9bdcc55a83b46>

Tran, L. (2020). TN Drug-Related Morbidity 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/57d13c1d98884022b390a284b3f515a1>

Tran, L. (2020). TN Number of Drug Reports 2010-2019 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/21f708b2a6be4992b5cdba3ea30d3aaa>

Tran, L. (2020). TN % of opioid-naive patients filling long-acting opioids dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/a3de98c0bbcd4080b2ebdd09df28a272>

Tran, L. (2020). TN All Benzodiazepines Prescriptions 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/1de2fe2da64c4250ab744ce415e37020>

Tran, L. (2020). TN All Opioids for Treatment Prescriptions 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/2f8ea84b4d174d1e8a033d1f2249dba1>

Tran, L. (2020). TN All Opioids for Pain Prescriptions 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/b9109570a7154aff83b92d638d69efe9>

Tran, L. (2020). TN Drug-Related Mortality 2012-2017 dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/2415a48a49e14beab8ce80c7f9c9a4b5>

Tran, L. (2020). Tennessee Opioid Prescription Morphine Milligram Equivalents (MME) dashboard:
<https://myutk.maps.arcgis.com/apps/opsdashboard/index.html#/2995b9a9053d499aa9ab79f47ce7d828>

f. Scholarships and Awards

1995-1999	East-West Center Graduate Fellowship for the Ph.D. program
1993-1995	Fulbright Graduate Fellowship for the M.A. program
1990	Distinguished Instructor and Researcher, Award of Ministry of Education and Training, Vietnam
1990	Scholarship from 'Bread for the World' for training course on River Water Quality Management, Bangkok, Thailand
1984	Outstanding Graduate, National Award, Vietnam
1980-1984	National scholarship for the B.E. program
2009	The Department's Teaching Award in Spring 2009
2012	The Department's Teaching Award in Spring 2012
2014	The Department's Above and Beyond Award in Spring 2014
2021	UTK College of Arts and Science's Faculty Academic Outreach Research Award

g. Research Grants and Contracts

On-going

PI. Orchestrating the Efforts to Fight the Opioid Crisis in Tennessee with Geospatial Technologies. Budget \$49,972.00 from University of Tennessee System to Geography.

Co-PI. Fine-resolution wetland mapping using high- performance computing and deep learning. Joint Institute for Computational Sciences to Geography

Completed

Primary Investigator for Funded Project beginning April 2018 - USEPA-PORTS System Dynamics Anticipating \$49,912.00 from US - EPA - US Environmental Protection Agency to Geography. [A18-1054]

2016-2018: A15-1352. *Science for the Sustainable and Healthy Communities Research Program (SHCRP) and the EnviroAtlas*. US Environmental Protection Agency. Tran's role: **PI**. Budget: \$52,768. Direct cost: \$44,654. Fraction of direct costs allocated to candidate: 100%. Project description: serve as senior scientist for the U.S. EPA's EnviroAtlas program, assist young scientists in the EnviroAtlas group to implement various environmental vulnerability assessment methods on online GIS system.

2016-2018: A16-0483-005. *Paleoflood Study*. Electric Power Research Institute. Tran's role: co-PI (PI: Larry McKay). Budget: \$57,426. Direct cost: \$24,829. Fraction of direct costs allocated to candidate: 100%. Project description: develop a cross-scale landscape-landform classification and modeling framework for paleoflood siting purpose.

2016-2017: JDRD-LDRD. *Examining the energy water nexus through the lens of the super network combining water routing networks with energy production consumption networks*. UT ORNL Science Alliance. Tran's role: **PI**. Budget: \$49,962. Direct cost: \$49,962. Fraction of direct costs allocated to candidate: 100%. Project description: to develop a super-network framework integrating hydrologic modeling, geospatial statistics, and network analysis to study the water, electricity, and food nexus.

2016-2017: UT Institute for a Secure and Sustainable Environment (ISSE). Linking neighborhood weather data with remotely-sensed land surface temperature. PI: Jon Hathaway. Budget: \$34,000; \$5,000 subcontracted to Liem Tran.

Liem T. Tran (U Tennessee), Dan Phuoc Nguyen (PI, HoChiMihn Tech), AD Ziegler (UHM) 2007-2008. Regional Water & Carbon Cycles in the context of Human-Environment Interaction, Mekong Basin, Vietnam. South Asia Regional Committee for START, award no 95/01/CW-005 (\$30,000) Lower Mekong Delta, Vietnam.

2006-2010: U013410038. Tennessee Board of Regents & Associates, US Environmental Protection Agency. Technical Support for Regional Vulnerability Assessment. Budget \$120,977. PI: **Liem Tran**.

2007-2008: TDEC: "Spatial and Temporal Variations in Water Quality and Their Connection to Land-Cover Change in Little River & Harpeth River Watersheds." Budget: \$29,000. PI: **Liem Tran**.

2008-2009: Science Alliance: "Cross-scale interactions and ecological system dynamics: pattern-process relationships through space and time." \$61,580. PI: **Liem Tran**.

2010-2011: Tennessee Valley Authority: "Hydrologic and land-use modeling comparative studies of alternative future landscapes and ecosystem services for the U.S. EPA's Future

Landscapes and Ecosystem Services in the Midwestern United States (FML)” – Part 2. Budget: \$100,000. PI: **Liem Tran**.

2009-2010: Tennessee Valley Authority: “Hydrologic and land-use modeling comparative studies of alternative future landscapes and ecosystem services for the U.S. EPA’s Future Landscapes and Ecosystem Services in the Midwestern United States (FML).” Budget: \$41,138. PI: **Liem Tran**.

2007-2010: U.S. EPA’s Regional Vulnerability Assessment (ReVA) program; transfer ReVA funding to UT via TN& Associates, Inc. (\$67,383 to cover the period from February 2007 to March 2009; more funding from EPA expected to continue the project in 2010). PI: **Liem Tran**.

2011-2012: U.S. USGS & EPA: “Development of Water Quality Model for Regional Loadings.” Budget: \$114,166. PIs: Carol Harden, Timothy Gangaware, **Liem Tran**.

2012-2013: U.S. USGS & EPA: “Development of Water Quality Model for Regional Loadings.” Budget: \$114,473. PIs: Carol Harden, Timothy Gangaware, **Liem Tran**.

2013-2014: UTK’s ORU. Develop a geodatabase for TVA data. \$45,200.

2014-2015: UTK’s ORU. Develop a geodatabase for TVA data. \$45,500.

Submitted but not funded

Co-PI. Increasing Access to Policy-Read Models: New County-Level Models, Communication and Training Requested \$455,281.00 from Council of State and Territorial Epidemiologists (CSTE) for Geography on July 2020

Proposal: Not Funded (Secondary Investigator) - Integration of SWOT Measurements and High-Resolution Remote Sensing Data for Mapping and Modeling Spatiotemporal Dynamics of Small Surface Waters Requested \$674,987.00 from NASA - National Aeronautics and Space Administration for Geography on November 2019. [20-1239]

Proposal: Not Funded (Primary Investigator) - CNH2-L: Dynamics of the opioid crisis and socio-economic and environmental disparities under multi-level interactions between the human and environment systems Requested \$1,449,395.00 from US - NSF - National Science Foundation for Geography on November 2019. [20-1629]

Proposal: Not Funded (Secondary Investigator) - Mapping Surface Water Dynamics in Tennessee Using High-Resolution Aerial Imagery and LiDAR Data Requested \$34,608 from Tennessee Water Resources Research Center (TNWRRC) for Geography on October 2019.

Proposal: Not Funded (Primary Investigator) - Exploring the Interconnectedness of Spatial Dependence and Spatial Heterogeneity with an Integrated Cross-Scale Analysis Framework Requested \$377,474.00 from US - NSF - National Science Foundation for Geography on September 2019. [20-0544]

Proposal: Not Funded (Secondary Investigator) - Investigating the Role of Land Surface Characteristics on Tornadogenesis in Landfalling Tropical Cyclones using Climatology and Case Studies Requested \$79,995.00 from DOC - NOAA - National Oceanic and Atmospheric for Geography on April 2018. [18-3422]

2007-2008: Problem Solving Using Environmental Assessment Investigations. NSF proposal. Budget: \$250,000. PI: Rita Hagevik. Co-PI: **Liem Tran**.

2007-2009: Tallassee Fund: “Develop a GIS database for ecological vulnerability assessment of Tapoco Project’s operations.” Fund requested: \$37,000. PI: **Liem Tran**.

August 2007-July 2009. Proposal: An Integrated Framework for Uncertainty Analysis of Models in Integrated Environmental Assessments. Funding source: EPA; amount: \$350,000; PI: **Liem Tran**. Co-PI’s: Mary English, Robert O’Neill.

2009-2010: The complexity of regional scale phenomena. NSF proposal. Budget: \$1,138,000. PI: Thomas Hallam; co-PI: Stephanie Smullen, **Liem T Tran**.

2009-2013: Physical, Ecological and Socio-cultural Transitions in Bi-national Agro-ecosystems. NSF proposal. Budget: \$1,500,000. PI: Thomas Hallam; co-PI: Stephanie Smullen, **Liem T Tran**, Gary F McCracken, John M Peters.

2014: *A trait-based approach to landscape genetics*. National Science Foundation. Tran’s role: co-PI. (PI: Richard Strange). Budget: \$200,000. Direct cost: \$150,000. Project description: to identify significant correlations between many fish functional traits and environmental variables.

2015. *The coupling of Bottom-Up Evapotranspiration Approaches with Remote Sensing Measurements to close the water budget in adjoining urban and agricultural areas in the U.S. Southeast*. US Geological Survey. Tran’s role: co-PI. (PI: Jon Hathaway). Budget: \$211,233. Direct cost: \$211,233. Fraction of direct costs allocated to candidate: 45%. Project description: to provide a fundamental understanding of the role of soil moisture on ET estimates and use this understanding to enhance predictions of ET across scales.

2016. *2016 East Tennessee Geospatial Academy*. Tennessee Higher Education Commission. Tran’s role: co-PI. (PI: Kurt Butefish). Budget: \$46,553. Direct cost: \$43,105. Fraction of direct costs allocated to candidate: 50%. Project description: The University of Tennessee, Colleges of Arts and Sciences and Education, Health and Human Science are partnering with Knox County and Oak Ridge School systems to propose the 2016 East Tennessee Geospatial Academy in response to the THEC ITQ Grant RFP for 2016.

2016. *The Coupling of Bottom-Up and Top-Down Evapotranspiration Approaches with Remote Sensing-Based Scaling to Close the Water Budget in Adjoining Urban and Agricultural Areas*. US Geological Survey. Tran’s role: co-PI. (PI: Jon Hathaway). Budget: \$476,288. Direct cost: \$238,136. Fraction of direct costs allocated to candidate: 25%. Project description: to quantify ET using bottom-up and top-down approaches, and provide a better method for scaling site observations to the larger watershed, in particular for systems with heterogeneous landscapes.

h. Professional Memberships

- American Geophysics Union
- The Association of American Geographers

i. Other professional activities

- Serve on the SEC Academic Symposium Advisory Board 2015-2017, organizing the "Water for Sustainable Ecosystems, Economies, and Communities: An Interactive Symposium."
- Serve on the Advisory Group - Commission for Environmental Cooperation’s Capacity Building for Vulnerable Communities Project, 2012-2013. North American Agreement on

Environmental Cooperation (NAAEC)'s Commission for Environmental Cooperation (CEC) includes representatives from Canada, US, and Mexico.

- Serve as a national expert on integrated regional assessment for the U.S. Environmental Protection Agency, 2009-present.
- Coordinator of the fuzzy-geography group, 2008-2010.
- Organized two paper sessions and one panel discussion at the AAG 2008 Meeting in Boston.
- Serve on SEDAAG Honors Committee, 2015-present.
- Organized the Cross-Scale Hydrologic Modeling: Challenges & Progress session at the AAG 2013 Annual Meeting, Los Angeles, CA, April 9-13, 2013.
- Reviewer, Environmental Policy and Governance, July 2018, Comparative analysis of indicator-based urban sustainability assessment frameworks: a systematic literature review
- Reviewer, Land Degradation & Development, April 2018 - August 2018, Review manuscript "Perennial biomass production from marginal land in the Upper Mississippi River Basin."
- Reviewer, Ecological Indicators, August 2017 - September 2017, Title: Regionalization of water environmental carrying capacity for supporting the sustainable water resources management and development in China
- Reviewer, Physical Geography, August 2017, Manuscript's title: Study on urban water security from resiliency perspective based on fuzzy comprehensive evaluation model
- Reviewer, Physical Geography, August 2017, Study on urban water security from resiliency perspective based on fuzzy comprehensive evaluation model
- Reviewer, Ecological Indicators, August 2017 - September 2017, Review manuscript "Regionalization of water environmental carrying capacity for supporting the sustainable water resources management and development in China."
- Manuscript reviewer, Journal of the American Water Resources Association (JAWRA) Biological Conservation (BOC) Catena Computers, Environment and Urban Systems (CEUS) Computers & Geosciences (CAGEO) Ecological Economics (ECOLEC) Ecological Modelling (ECOMOD) European Journal of Operational Research (EJOR) Environmental Modeling and Assessment (EMA) Environmental Management (ENM) Environmental Modeling and Assessment (ENMO) Earth Science Informatics (ESIN) Fuzzy Sets and Systems (FSS) Health Care Management Science (HCMS) Hydrology and Earth System Sciences (HESS) International Journal of Academic Research (IJAR) International Journal of Geographical Information Science (IJGIS) Information Sciences (INS) Journal of Ocean Technology Journal of Environmental Management (JEMA) Computational Statistics & Data Analysis (CSDA) Journal of Hydrology Landscape Ecology (LAND) Libertas Academica Management Research News (MRN) Mathematical and Computer Modelling (MCM) Naturwissenschaften Photogrammetric Engineering & Remote Sensing (PE&RS) Transactions on Engineering Management (TEM) Water Resources Management (WARM), August 2014 - July 2017 (ongoing), Reviewer

- Proposal reviewer, U.S. Army Corps of Engineers' Engineer Research and Development Center (ERDC), August 2014 - July 2017 (ongoing), Grant proposal reviewer
- Served as reviewer for NSF proposals.
- Served as reviewer for three books.
- Wrote a proposal entitled “Regional Water and Carbon Cycles in the context of Human-Environment Interaction in the Lower Mekong Basin, Vietnam,” submitted to The Southeast Asia Regional Committee for START (SARCS). The project was funded \$30,000 which went to the HoChiMinh City University of Technology (HCMCUT). Tran was a no-pay scientific advisor for the project.
- Proposal reviewer, NOAA’s RESTORE Science Program, February 2023, Grant proposal reviewer; four proposals

Departmental Service

- Associate Head, 2020-current.
- Develop New Academic Program of the BS in GIS&T, UTK Geography Department, Coordinator, editor, author, April 2020 - August 2021, Develop the New Academic Program Proposal of the BS in GIS&T to submit to THEC (>150 pages).
- Develop Letter of Notification of the BS in GIS&T program, UTK Geography Department, Coordinator, editor, author, August 2019 - July 2020, Develop the Letter of Notification of the BS in GIS&T program to submit to THEC (42 pages)
- Business Manger Search Committee, Department of Geography, Chair, April 2019 - June 2019, Chair of the business manager search committee of the Geography department
- GIS Search Committee, Department of Geography, Member, November 2018 - April 2019, Member of the GIS faculty search committee
- Executive Advisory Committee, , Department of Geography, University of Tennessee, Member, August 2018 - September 2021 (ongoing), A position that assists and advises Department Head on governance issues, including faculty evaluation
- Director of Graduate Studies (2012-2015)
- Serve on Graduate Program Committee (2009-2015)
- Serve on Graduate Admissions Committee (2009-2015)
- Served as webmaster for the department’s website (2008-2012)
- In charge of the department computer labs (2009-2012)
- Serve on the GIS-Transportation Search Committee in 2010-2011.
- Serve on the Department Chair Search Committee in 2011-2012.
- Serve on the Target Opportunity Hire Search Committee in 2011-2012.
- Chair of the search committee of GIS outreach coordinator position, 2016.
- Serve on the GIS faculty search committee, 2016.

- Serve as the department photographer (2013-present).

College Service

- Serve as the Arts & Sciences representative on the Watershed Minor executive committee, 2015-2020.
- Serve on the Haines-Morris Committee, 2016-2020.
- Served on the Graduate Education Working Group (GEWG) to develop policies for various fellowships and to select fellowship awardees. 2013-2016.
- Served on the Search Committee for the College's Data Analyst position 2013.

University Service

- Substance Misuse and Addiction Resource for Tennessee (SMART) Policy Network, 2020-2022. Member of Operation Board. Conduct data analyses, develop dashboards.
- Substance Misuse and Addiction Resource for Tennessee (SMART) Initiative, 2022-on going. Conduct data analyses, develop dashboards.
- Coronavirus-19 Outbreak Response Experts (CORE-19), UTK, Expert on spatial modeling, system dynamics modeling, March 2020 - August 2021, The Coronavirus-19 Outbreak Response Experts (CORE-19) team at the University of Tennessee, Knoxville is a network of researchers in public health, economics, public policy, agriculture, veterinary medicine, and other disciplines who seek to provide timely and evidence-based information for policymakers, industry, and the public on pressing questions regarding the global pandemic. Running a Covid-19 transmission rate model used in the TN Covid-19 dashboard.
- Mid-Cycle Program Review Panel, UTK, Internal reviewer, February 2020 - March 2020, Mid-Cycle Program Review, Department of Political Science, February 20-21, 2020. Conduct interviews, writing report.
- Summit for Opioid Addiction & Response, UT System, GIS & geospatial analyst, January 2020 - August 2020 (ongoing), Provide geospatial expertise to the UT Summit for Opioid Addiction & Response in the fight against the opioid crisis in TN. Helping UT system to develop geodatabase and geospatial applications for various stakeholders (e.g., social workers, judges, the public, K-12 students, etc.) in the fight against the opioid crisis.
- Undergraduate Council, Natural Sciences, Natural Sciences Committee, Committee member, August 2019 - July 2024 (ongoing), Member of Natural Sciences committee, Undergraduate Council
- Serve as UT representative on the SEC Academic Symposium Advisory Board since 2015, organizing the "Water for Sustainable Ecosystems, Economies, and Communities: An Interactive Symposium" in 2007.
- Serve as judge for UTK's EURECA (Exhibition of Undergraduate Research & Creative Achievement) 2011, 2012, 2013, 2014, 2015, 2016.

Curricular Designs and Innovations

New Program, BS in GIS&T, August 2019 - August 2021.

Course Redesign, GEOG 536-Watershed Dynamics, January 2018 - May 2018.

Course Redesign, GEOG 436-Water Resources, January 2016 - May 2016.

Undergraduate Honors Theses (Student Supervision)

Emma Reed, Potential Contamination Risk in Tennessee Aquifers from Oil and Gas Drilling, January 2018 - May 2018.

Student Research (Student Supervision)

Undergraduate, Cody Hudson, Using System Dynamics to Explore the Impact of Drought on Tennessee Water Resources and Agriculture, January 2018 - May 2018.

Undergraduate, Emma Reed, Risk from gas-oil drilling on groundwater in Tennessee, August 2017 - August 2018 (ongoing).

Undergraduate, Danielle Dami, Water-Energy Nexus, May 2016 - March 2017.

Undergraduate, Bridgette Frtiz, UG Knoxville surface temperature & paleoflood, May 2016 - July 2017 (ongoing).

Undergraduate, Christopher Wang, Paleo flood spatial analysis, May 2016 - July 2016.

Institutional Program Reviews

Reviewer, Mississippi State University, Department of Geosciences, August 2018 - September 2018, External Review for Dr. Qingmin Meng's P&T application

Service to Community

- Using geospatial technology to fight the opioid crisis, Align9, GIS expert, July 2020 - August 2022 (ongoing), Align9 is a non-profit working to align resources across the 9th Judicial District of Tennessee. We provided them GIS training.
- Knoxville Leadership Foundation, Knoxville Leadership Foundation, GIS analyst, February 2020 - March 2020, Helping with GIS projects, creating maps for Knoxville Leadership Foundation's federal grant applications; creating opportunities for students doing internships with NGOs