# Yanli Zhang, Ph.D.

Associate professor of Spatial Science and Water Resources Arthur Temple College of Forestry and Agriculture Stephen F. Austin State University

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#### **EDUCATION**

**Ph.D.** University of Massachusetts-Amherst, 2006, Forestry, Dissertation: Development and Validation of a Watershed Forest Management Information System

**B. E.** Beijing Forestry University, Beijing, China, 1993, Forestry and Wood Working Machinery

#### PROFESSIONAL EXPERIENCE

- **Associate Professor**: 2015- present, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University (SFASU)
- **Assistant Professor**: 1.2009- 2015, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University (SFASU)
- Research Associate (Post-Doctor): 9.2006-8.2007 / Visiting Assistant Professor: 8.2007-1.2009, GeoTREE Center, Dept. of Geography, University of Northern Iowa (UNI)
- **Research Assistant**: 1.2002-8.2006, Dept. of Natural Resources Conservation, University of Massachusetts-Amherst (UMass-Amherst)
- **Program Management Officer**: 7.1993-12.2001, International Cooperation Department, Beijing Forestry University (BJFU), Beijing, China

#### **TEACHING**

- 1. GIS 201/GEO 220: Introduction of GIS
- 2. GIS 301: GIS application
- 3. GIS 395: GIS database management
- 4. GIS 400/500: GIS programming
- 5. GIS 464/564: GIS for water resources
- 6. FOR 223: Surveying and mapping
- 7. FOR 323: Land measurement

8. AED 678: Social, economic, and educational reform in 21st century China (Summer 2012)

### **PUBLICATIONS**

#### **Peer Reviewed Articles**

- 1. **Zhang, Y.,** M.W. McBroom, B.P. Oswald, and W. Conway. 2014. Visual Traverse: an open source Python program to assess, post-process and visualize polygon data. *J. of Surveying Engineering*, under review
- 2. **Zhang, Y.** and P.K. Barten. 2014. Forest road evaluation: terrain analysis to identify sediment source areas. *J of Forestry*, under review.
- 3. Kulhavy, D.L., D.R. Unger, **Y. Zhang,** P. Bedford, and I. Hung. 2014. Comparing remotely sensed Pictometry web based slope distance estimates with In Situ total station and tape slope distance estimates. *Applied Remote Sensing*, under review
- 4. Unger, D.R., I. Hung, **Y. Zhang**, and D.L. Kulhavy. 2014. Evaluating GPS effectiveness for natural resource professionals: integrating undergraduate students in the decision making process. *J. of Studies in Education*. 4(4): 30-44 DOI: 10.5296/jse.v4i4.6389
- 5. McBroom, M.W., M. Ringer, and **Y. Zhang**. 2014. In stream woody debris and riparian forest characteristics in the Sabine River, Texas. *Southeastern Naturalist*, 13(5): 1-14
- 6. Unger, D.R., D.L. Kulhavy, I. Hung, and **Y. Zhang**. 2014. Quantifying natural resources using field-based instruction and hand-on applications. *J. of Studies in Education*, 4(2):1-14
- 7. **Zhang, Y.**, H. Li, M. McBroom and S. Bullard. 2013. A spatial analysis of the forestry industry in East Texas, *Annals of GIS*, 19(3): 187-193 DOI: 10.1080/19475683.2013.806357
- 8. Unger, D.R, I. Hung , Y. Zhang, J. Parker, D. Kulhavy, and D. Coble. 2013. Accuracy assessment of perimeter and area calculations using consumer-grade Global Positioning Systems (GPS) units in southern forests. *Southern J. of Applied Forestry*, 37(4): 208-215
- 9. McBroom, M.W., T.N. Thomas, and **Y. Zhang**. 2012. Soil erosion and surface water quality impacts of natural gas development in east Texas, USA. *Water*, 4(4):944-958 DOI:10.3390/w4040944
- 10. DeGroote P. J., S.R. Larson, **Y. Zhang**, R. Sugumaran. 2012. Application of geospatial technologies for understanding and predicting vector populations and vector-borne disease incidence, *Geography Compass*, 6(11): 645-659 DOI: 10.1111/gec3.12003
- 11. **Zhang, Y.,** R. Sugumaran, M. McBroom, J. DeGroote, R. Kauten, and P. K. Barten. 2011. Web-based spatial decision support system and watershed management with a case study. *International J. of Geosciences*. 2(3):195-203. DOI: 10.4236/ijg.2011.23021
- 12. **Zhang, Y.,** N.T. Woodward, D. Unger, I. Hung, B.P. Oswald, and K.W. Farrish. 2011. A GIS tool for plant Spatial pattern analysis, *Environmental Modeling and Software* 26(10): 1251-1254, DOI: 10.1016/j.envsoft.2011.05.005

13. **Zhang, Y.,** J. DeGroote, C. Wolter, R. Sugumaran. 2009. Integration of Modified Universal Soil Loss Equation (MUSLE) into a GIS Framework to assess soil erosion risk. *Land Degradation & Development*, 20: 84-91 DOI: 10.1002/ldr.893

- 14. **Zhang, Y.** and P.K. Barten. 2009. Watershed Forest Management Information System (WFMIS), *Environmental Modeling and Software*, 24(4):569-575 DOI: 10.1016/j.envsoft.2008.10.006
- 15. **Zhang, Y.**, P.K. Barten, R. Sugumaran, J. DeGroote. 2008. Evaluating forest harvesting to reduce its hydrologic impact with a spatial decision support system. *Applied GIS*, 4(1): 1-16

### **Book / Book Chapter**

- McBroom, M.W. and **Y. Zhang**. 2012. Best Management Practices (BMPs). *In*: Anderson, R., ed., Berkshire Encyclopedia of Sustainability, Volume 5, Ecosystem Management and Sustainability. Berkshire Publishing, Barrington, MA, USA. ISBN: 978-1-933782-16-4
- **Zhang, Y.** 2008. Watershed Forest Management new tools for water resources conservation, VDM Verlag Dr. Müller, Saarbrücken, Germany. ISBN: 978-3836475174

### **Proceedings**

- 1. Kulhavy, D., D. Unger, M. Wade, I. Hung, **Y. Zhang.** 2014. Use of AR. Drone, iTREE, and shade tree hazard rating for urban trees. Proc. 9<sup>th</sup> Southern Forestry and Natural Resource Management GIS Conference, K. Merry, P. Bettinger, T. Brown, C. Cieszewski, I. Hung, and Q. Meng (editors), Athens, GA, Dec., 2013. 21-23
- 2. Unger D., M. Wade, D. Kulhavy, J. Williams, D. Creech, I. Hung, **Y. Zhang.** 2014. Measuring bald cypress tree height using Pictometry hyperspatial multispectral imagery. Proc. 9<sup>th</sup> Southern Forestry and Natural Resource Management GIS Conference, K. Merry, P. Bettinger, T. Brown, C. Cieszewski, I. Hung, and Q. Meng (editors), Athens, GA, Dec., 2013. 97-99
- 3. Barten, P.K., K.A. Blaha, A.L. Crétaz, C. E. Ernst, K.A. Lanouette, M.G. Phelps, L. Shay, A.H. Todd, **Y. Zhang**, and M.H. Zieper. 2003. Land conservation for source water protection: Mapping, assessment, and implementation. Proc. International Congress on Watershed Management for Water Supply Systems, M.J. Pfeffer, D. van Abs, and K.N. Brooks (editors), New York, NY, July 2003, American Water Resources Association

### **Technical Articles and Reports**

- 1. **Zhang Y.** and D. Unger. 2015. Batch geocoding with Google Earth Pro, now free. *The Forestry Source*, 20(4):14-15
- 2. **Zhang Y.,** D. Unger, I. Hung, and D. Kulhavy. 2015. GPS elevation accuracy: tests with the Garmin Oregon 600. *The Forestry Source*, 20(1): 14
- 3. **Zhang Y.,** D. Unger, I. Hung, and D. Kulhavy. 2014. WAAS, GLONASS, and GPS accuracy. *The Forestry Source*, 19(12):14

4. **Zhang Y.** and J. Stovall. 2014. Using Google Earth for Forestry Management, *The Forestry Source*, 19(4): 17

- 5. **Zhang Y.,** M.W. McBroom, J. Grogan, P. R. Blackwell. 2013. Crowdsourcing with ArcGIS Online for natural resources management, *The Forestry Source*, 18(2): 14-15
- 6. **Zhang Y.,** D. Unger, J. Grogan, B.P. Oswald, and J. Lanham. 2012. Using ArcPy to automate making thematic map books: two cases, *The Forestry Source*, 17(12):10-11
- 7. **Zhang Y.,** M.W. McBroom, Grogan J., and I. Hung. 2011. Snapping a pour point for watershed delineation in ArcGIS hydrologic analysis, *The Forestry Source*, 16(9):12
- 8. **Zhang Y.,** Grogan J., I. Hung, and R. Sugumaran. 2011. Soil erosion modeling with the Modified Universal Soil Loss Equation, *The Forestry Source*, 16(2):12
- 9. **Zhang Y.,** Grogan J., I. Hung, and R. Sugumaran. 2010. GeoLiTE, an ArcGIS Extension to Assist in LiDAR Data Processing, *The Forestry Source*, 15(11):14
- 10. Grogan J., I. Hung, J. Raines, and **Y. Zhang**. 2010. Soil Viewer Extension brings soil data to your GIS, *The Forestry Source*, 15(8):12
- 11. Grogan J., I. Hung, and **Y. Zhang**. 2010. Collecting multiple point features referenced to a single geographic position in ArcPad, *The Forestry Source*, 15(4):13
- 12. Gregory P.E, **Y. Zhang**, and P.K. Barten. 2007. Watershed Forest Management Information System user's guide, UMass-USFS Watershed Partnership, Amherst, MA
- 13. Gregory P.E, **Y. Zhang**, and P.K. Barten. 2007. Watershed Forest Management Information System overview, UMass-US Forest Service Watershed Partnership, Amherst, MA
- 14. Barten, P.K., A. L. de la Cretaz, and Y. Zhang. 2004. Lessons learned from the source water stewardship project, UMass-USFS Watershed Partnership, Amherst, MA
- 15. Barten, P.K., Y. Zhang, and A.L. de la Cfetaz. 2003. Conservation, restoration, and stormwater management priorities for source water protection in the Metedeconk river watershed, New Jersey: supplemental analyses for the stewardship exchange and implementation Phase, UMass-USFS Watershed Partnership, Amherst, MA
- 16. Barten, P.K., **Y. Zhang**, and A.L. de la Cfetaz. 2002. Land conservation, restoration, and stormwater management priorities for the Nissitissit and Squannacook river watersheds, MA and NH, UMass-USFS Watershed Partnership, Amherst, MA
- 17. Barten, P.K., **Y. Zhang**, and A. L. de la Cfetaz. 2002. Land conservation, restoration, and stormwater management priorities for the upper Little Tallapoosa river, GA, UMass-USFS Watershed Partnership, Amherst, MA

### PRESENTATIONS AND WORKSHOPS INSTRUCTED

### **Presentations/Posters**

1. Brown, M., S. Sewell, and **Y. Zhang**. 2015. Using GIS to perform DRASTIC Evaluations for ground water vulnerability to contamination, Urban Riparian Symposium, Feb. 11 -13, 2015. Austin, TX

2. Brown, M., Y. Zhang and D. Unger. 2014. How does radiometric resolution impact land cover classification? An east Texas case study, 2014 TNRIS GIS Forum, Oct. 22-23, 2014, Austin, TX

- 3. Whitlock R. Carmical R., Erhart J., **Y. Zhang**, and D. Unger. 2014. Accuracy evaluation of hand held GNSS, 2014 TNRIS GIS Forum, Oct. 22-23, 2014, Austin, TX
- 4. Alaniz S., B. Randall, D. Wharton, and **Y. Zhang**. 2014. An assessment of the accuracy of handheld GPS devices, 2014 TNRIS GIS Forum, Oct. 22-23, 2014, Austin, TX
- 5. **Zhang Y**. and M. McBroom. 2014. Is the Small Watershed Boundary Delineated by GIS Accurate? Southwest Stream Restoration Conference, May 28-30, 2014, San Antonio, TX
- 6. **Zhang Y**. 2014. Acreage measurements with Google Earth. Capital Ideas Live!, a news conference for forest landowners, May 21, 2014, Alabama Forest Owners' Association, online (http://www.afoa.org/cilive/CI1405.htm)
- 7. **Zhang Y.** and M.W. McBroom. 2014, Watershed boundary delineation, College seminar, Arthur Temple College of Forestry and Agriculture, Feb. 19, 2014
- 8. Priest J., J. Stovall, **Y. Zhang,** G.D. Kronrad, B.P. Oswald. 2014, An economic and spatial analysis of silopasture viability in east Texas. SRM 67<sup>th</sup> Annual International Meeting, Society for Range Management, Feb. 11, 2014, Orlando, FL
- 9. Unger, D.R., M.A. Wade, D.L. Kulhavey, J. Williams, D. Creech, I. Hung, and **Y. Zhang**. 2013. Measuring tree height using Pictometry Hyperspatial 4-inch multispectral imagery, 9<sup>th</sup> Southern Forestry and Natural Resource Management GIS Conference, Dec. 8-10, 2013, Athens, GA
- 10. McBroom M.W. and **Y. Zhang**. 2013. Soil erosion and surface water quality impacts of natural gas development in east Texas, USA, Engineering Conference International, Aug. 8, 2013, Boulder, CO
- 11. **Zhang Y.**, M.A. Wade, M. McBroom, and D. Unger. 2013. The impact of flow direction algorithm on small watershed delineation. Annual Conference of the Association of American Geographers, Apr. 9-13, 2013, Los Angeles, CA
- 12. Williams H.M., L. Gibson, K.W. Farrish, D.R. Unger, **Y. Zhang**. 2013. Planted bur oak and pecan performance in relation to canopy gap size and orientation and physiological response to flooding, 17<sup>th</sup> Biennial Southern Silvicultural Research Conference, Mar. 5, 2013, Shreveport, LA
- 13. **Zhang Y.**, M. McBroom, and S. Bullard. 2012. The forest industry in east Texas a spatial analysis. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 14. Unger D., I. Hung, and **Y. Zhang**, and Parker J. 2012. Accuracy assessment of consumer grade GPS units in southern forest. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 15. Brown A., M.W. McBroom, **Y. Zhang**, D.W. Coble. 2012. Large woody debris dynamics in the lower San Antonio river. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA

16. Schwabb, S., D.R. Unger, **Y. Zhang**, M.W. McBroom, I. Hung. 2012. Land cover change and water quality response of forests due to oil and gas pad construction. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA

- 17. Kulhavy, D.L., D.R. Unger, **Y. Zhang**, K. Palmer. 2012. Multi-criteria site evaluation methodology for oil and gas exploration. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 18. Westbrook J., I. Hung, D.R. Unger, **Y. Zhang**. 2012. Sub-pixel classification of southern forests in east Texas. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 19. Unger D., I. Hung, and **Y. Zhang** and B. Brown. 2012 Accuracy of land cover maps derived from remotely sensed data. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 20. McBroom M. **Y. Zhang**, and A. Brown. 2012. Large woody debris in Texas rivers, the lower Sabine versus the Lower San Antonio. SAF 2012 National Convention, Oct. 24-28, 2012, Spokane, WA
- 21. Westbrook J. I. Hung, D.R. Unger, **Y. Zhang.** 2012. Sub-pixel classification of forest cover types in east Texas, ESRI International User Conference, Jul. 24, 2012, San Diego, CA
- 22. Parker J. D. Unger, I. Hung and **Y. Zhang.** I. 2012. Accuracy assessment of area calculation using consumer grade GPS units in southern pine forests. SFASU Bright Ideas Conference. Apr. 11, 2012, Nacogdoches, TX
- 23. **Zhang, Y**. M. McBroom, D. Unger, and A.M. Brown. 2012. A spatial analysis of the forestry industries in East Texas. Annual Conference of the Association of American Geographers, Feb. 24-28, 2012, New York, NY
- 24. Westbrook J., I. Hung, D.R. Unger, **Y. Zhang**. 2011. Sub-pixel classification of forest cover types, 8<sup>th</sup> Southern Forestry and Natural Resource Management GIS Conference, Dec. 11, 2011, University of Georgia, Athens, GA
- 25. M. McBroom, Y. Zhang, T. Thomas. 2011. Watershed modeling to study the impacts of forest biomass harvesting on water resources in East Texas, Society of American foresters National Convention, Nov. 2-6, 2011, Honolulu, HI
- 26. **Zhang, Y**. and B. Oswald. 2011. The development of a GIS tool, ArcSilviculture, to assist forest restoration. Annual Conference of the Association of American Geographers, Apr. 12-16, 2011, Seattle, WA
- 27. Gibson L., H.M. Williams, K. Farrish, **Y. Zhang,** D.R. Unger. 2011. Planted bur oak and pecan survival in relation to canopy gap size and orientation. 16<sup>th</sup> Biennial Southern Silviculture Research Conference, Feb. 15, 2011, Charleston, SC
- 28. **Zhang, Y**., M. McBroom, I. Hung, and C. Ransome. 2010. Spatial interpolation of single beam sonar data for reservoir topography and volume assessment. Annual Conference of the Association of American Geographers, Apr. 14-18, 2010, Washington DC

29. **Zhang, Y**., I. Hung, and K. W. Farrish. 2010. Development of an ArcGIS extension: Urban Watershed Management Assistance. Bright Ideas Conference. Apr. 8, 2010, Nacogdcohes, TX

- 30. Gibson L., K. Dailey, H. Williams, K. Farrish, **Y. Zhang**, D. Unger. 2010. Planted bur oak (*Quercus macrocarpa*) and pecan (*Carya illinoinensis*) survival and growth in relation to canopy gap size and orientation. Bright Ideas Conference. Apr. 8, 2010, Nacogdcohes, TX
- 31. Woodward N. D. Unger, B. Oswald, **Y. Zhang**, I. Hung, and K. Farrish. 2010. GIS in restoration ecology: developing Spatially representiative planting maps for restoration of hardwood forests in Mammoth Cave National Park. 17<sup>th</sup> Central Hardwood Forest Conference, Apr. 5-7, 2010, Lexington, KY
- 32. Sugumaran R., Y. Zhang, and M.K. Rahaman. 2010. Cedar Falls/UNI urban watershed assessment project. Iowa Water Conference, Mar. 8-9, Ames, IA
- 33. **Zhang Y**. D.L. McDonald, R. Sugumaran. 2010. Introduction of a LiDAR data processing tool and a case study, 4<sup>th</sup> Annual East Texas Geospatial Conference, Columbia Regional Geospatial Service Center, Jan. 28. 2010. Nacogdoches, TX
- 34. **Zhang, Y**., R. Sugumaran. 2009. Data density effects on the accuracy of LiDAR derived DEM. Annual Conference of the Association of American Geographers, Mar. 22-27, 2009, Las Vegas, NV
- 35. **Zhang, Y**., R. Sugumaran. 2008. Assess soil erosion risk with a GIS based MUSLE model. Annual Conference of the Association of American Geographers, Apr. 15-19, 2008, Boston, MA
- 36. **Zhang, Y.,** R. Sugumaran, and P.K. Barten. 2007. HSRS, a spatial decision support system optimizing forest harvest at watershed level to conserve water resources. 2007 Watershed Science & Technical Conference, Sep. 10-11, 2007, West Point, NY
- 37. **Zhang, Y**., R. Sugumaran. 2007. Web-based Watershed Management Priority Indices, 8<sup>th</sup> Biennial IGIC (IA Geographic Information Council) GIS conference, Apr. 23-26, Sioux City, IA
- 38. **Zhang, Y.**, R. Sugumaran. 2007. Development and validation of a web-based watershed management spatial decision support system. Annual Conference of the Association of American Geographers, Apr. 17-21, 2007, San Francisco, CA
- 39. **Zhang Y.**, P.K. Barten. 2006. Development and validation of a watershed forest management information system. In G.R. Larocque, M. Fortin, and N. Thiffault, compilers. Forest Science across the borders. Proceedings of the Eastern CANUSA Forest Science Conference. Oct. 19-21, 2006 Quebec, Canada, Conference handbook, Can, CFS, and Univ. Laval

#### **Workshops Instructed**

- 1. LiDAR data processing and application, Oct. 6, 2008, Univ. of Northern Iowa
- 2. Advanced LiDAR, Aug. 7-8th, 2007, Univ. of Northern Iowa

- 3. GPS into GIS: Advanced GPS, Jul. 24th, 2007, Univ. of Northern Iowa
- 4. Introduction to VBA Programming with ArcObjects, Jul. 18, 2007, Univ. of Northern Iowa
- 5. GPS Data into GIS. Aug. 2, 2006 Univ. of Northern Iowa
- 6. Customizing ArcGIS with Python, Aug. 16, 2006, Univ. of Northern Iowa
- 7. WMPI training workshop, 2005, Univ. of Massachusetts, Amherst

### GIS SOFTWARE DEVELOPED

- 1. Visual Traverse, an open source Python program, SFASU, 2014
- 2. Forest Inventory Analysis programming, SFASU, 2012
- 3. ArcPy code for thematic map making, SFASU, 2012
- 4. ArcPlantPatern (ecological distribution pattern analysis), SFASU, 2011 Available at <a href="http://www.faculty.sfasu.edu/zhangy2/download.htm">http://www.faculty.sfasu.edu/zhangy2/download.htm</a>
- 5. Code contribution to *Spatial Decision Support Systems, Principles and Practices* (CRE Press 2010), SFASU, 2009
- 6. Urban Watershed Management Assistance, SFASU, 2009
- 7. LiDAR data analysis tool, GeoLiTE, GeoTREE, UNI, 2008, available at <a href="http://www.geotree.uni.edu/GeoLITE.aspx">http://www.geotree.uni.edu/GeoLITE.aspx</a>
- 8. ArcMUSLE (Soil erosion modeling tool in ArcGIS), UNI, 2007-2008 Available at <a href="http://www.faculty.sfasu.edu/zhangy2/download.htm">http://www.faculty.sfasu.edu/zhangy2/download.htm</a>
- Iowa LiDAR Mapping project, GeoTREE, UNI, 2007-2008 <a href="http://geotree2.geog.uni.edu/lidar/">http://geotree2.geog.uni.edu/lidar/</a>
- 10. Web-based watershed management system, UNI, 2007 http://geotree2.geog.uni.edu/webwmpi/
- 11. Watershed Forest Management Information System, UMass-Amherst, 2006

#### RESEARCH GRANTS

- 1. Co-PI, Computer equipment for the forestry program at Arthur Temple College of Forestry and Agriculture, Horace C. Cabe Foundation, \$50,000, 10.1.2013-9.30.2014
- 2. Co-PI, Surface water pollution control with storm water management rain gardens, Stephen F. Austin State University, \$18,191, 9.2012-8.2013
- 3. Co-PI, Water quality effects of urban riparian vegetation restoration, Natural Resources Conservation Service (NRCS), East Texas Plant Material Center, \$55,834.62, 1.2013-12.2014

4. Co-PI, Developing a large woody debris budget for the lower San Antonio river, TX, Sponsored by Texas Water Development Board, \$50,000 (1.2011-9.2013 2013)

- 5. Co-PI, Modeling soil greenhouse gas efflux along hydrological and population gradients, NASA Carbon Cycle Science, \$550,000 (not funded)
- 6. Supporting, Anuran use of coastal freshwater wetlands along the upper Gulf Coast, General Land Office, \$99,486, 1.2011-8.2011 (not funded).
- 7. PI, Geospatial Modeling of the impact of forest change on water resources in East Texas, 2011-2015, \$30,000, funded by USDA, Forest Service
- 8. Co-PI, Using remotely sensed data for estimating change in forest land cover, age class and timber distribution for the East Texas forest inventory project, 2.2011-5.2011, \$7,560, SFASU, (not funded)
- 9. Co-PI, How vulnerable is my property to the sea level rise in gulf of Mexico? Mississippi-Alabama Sea Grant Consortium, 2.1.2011 1.31.2013, \$178,189, (not funded)
- 10. PI, Watershed Modeling to study the impacts of forest biomass harvesting on water resources in East Texas, Stephen F. Austin State University, \$19,223, 9.2010-8.2011
- 11. PI, Development and validation of a GIS algorithm to assess reservoir topography and volume, CRA, Inc. \$1000, 9.2009-6.2010
- 12. PI, Spatial analysis of the impact of land cover change on water resources in Southern Region, USDA Forest Service, \$10,000, 6.2009-12.2010
- 13. PI, Development of an ArcGIS extension: Urban Watershed Management Assistance (UWMA), City of Cedar Falls, \$10,000, 6.2009-1.2010
- 14. Co-PI, Web-RUSLE: Soil Erosion Modeling for Iowa, \$80,000 (not funded)
- 15. Co-PI, Estimation of soil erosion and sediment yield using LiDAR data and GIS modeling, \$30,000 (not funded)
- 16. Co-PI, Iowa LiDAR Web-Portal Project, Iowa DOT/DNR, \$44,200, 3.2008-12.2009
- 17. Co-PI, Integrated Watershed Management Framework (IWMF) for Midwestern Watershed, USDA, \$563,000, 8.2007-7.2010 (not funded)

#### PROFESSIONAL DEVELOPMENT

- 2014, The stewardship of public lands: politics and the Yellowstone ecosystem, American Association of State Colleges and Universities, 8.2014
- 2014, Faculty Learning Community VI: mentored undergraduate scholarship, SFA Office of High Impact Practices, 8.2013-5.2014
- 2013, Texas GIS Forum Hacker's Sandbox, Texas Water Development Board and Texas Natural Resources Information System, Austin, 10.2013
- 2013, Certified Online Instructor, SFASU, one semester training, 1.2013-5.2013

• 2011, Water Resources Training Course: Flood plain Delineation with HEC-RAS and GIS, Texas A&M University, 9.2011

- 2010, Water Resources Training Course: Advanced SWAT Course, Texas A&M University, 5.2010
- 2010, Water Resources Training Course: Introductory SWAT Course, Texas A&M University, 5.2010
- 2009, Learning Visual Basic for Applications for New ArcGIS Developers, ESRI, 5.2010

### PROFESSIONAL SERVICE AND ACTIVITIES

### **Professional Affiliations and Honorary Society**

- Society of American Foresters (SAF)
- International Association of Hydrological Sciences
- ESRI Forestry Group
- Association of American Geographers (AAG)
- The New York Water Environment Association (previous)
- Xi Sigma Pi (Forestry Honor Society), 2005 at UMass-Amherst

### Peer Reviewing/ Book Reviews

- 1. Applied Engineering in Agriculture
- 2. Journal of Environmental Management
- 3. Journal of Soil and Water Conservation
- 4. Journal of Water Resources Planning and Management
- 5. Journal of Environmental Informatics
- 6. International Journal of Geographical Information Science
- 7. Remote Sensing of Environment
- 8. Journal of Environmental Quality
- 9. Stochastic Environmental Research & Risk Assessment
- 10. Annals of GIS
- 11. The Extractive Industries and Society
- 12. Water Environmental Research
- 13. Hydrological Sciences Journal
- 14. Reviewed *Hydrology and Floodplain Analysis* for Pearson Higher Education.
- 15. Reviewed *Getting Started with Geographic Information System*, 5<sup>th</sup> edition for Pearson Higher education (2011)

## **AWARDS**

• Excellence in Research, Scholarship and Artistry, 2015 Bright Ideas Conference, Stephen F. Austin State University, April, 2015

• Donald L. Mader Memorial Award for Excellence in Graduate Research, University of Massachusetts-Amherst, 2006