

**MICHAELA BUENEMANN**  
**CURRICULUM VITAE**

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**EDUCATION**

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- Ph.D. University of Oklahoma, Norman, OK, 2007 (Geography)  
B.A. Universität-Gesamthochschule Paderborn, Germany, 1999 (Geography, Spanish Literature, Media Sciences)

**PROFESSIONAL POSITIONS**

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- 2014-Present Associate Professor, Department of Geography, New Mexico State University, Las Cruces, NM  
2008-2014 Assistant Professor, Department of Geography, New Mexico State University, Las Cruces, NM  
2007-2008 Adjunct Lecturer, University of Arizona, Tucson, AZ  
2005-2007 Instructor, James Madison University, Harrisonburg, VA  
2000-2005 Graduate Teaching Assistant, University of Oklahoma, Norman, OK  
1997-1999 Undergraduate Research Assistant, Universität-Gesamthochschule Paderborn, Germany

**RESEARCH**

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**PUBLICATIONS**

<sup>DS</sup> Doctoral Student, <sup>MS</sup> Master's Student, <sup>US</sup> Undergraduate Student

<sup>IP</sup> In Press, <sup>A</sup> Accepted, <sup>UR</sup> Under Review

\* Last author = senior author

- UR **Buenemann, M.**, M. Coetzee, J. Kutuahupira, and J. Herrick Variability in soil map predictions: the need for better on-site estimates and improved downscaling of soil properties. *PLOS ONE*.
- UR\* Richman, R.<sup>MS</sup>, M. Diallo, D. Diallo, A. A. Sall, O. Faye, C. T. Diagne, O. Faye, I. Dia, S. C. Weaver, K. A. Hanley, and **M. Buenemann**. Ecological niche modeling of *Aedes* mosquito vectors of chikungunya virus in Senegal. *International Journal of Health Geographics*.

- A McCord, S. E.<sup>MS</sup>, **M. Buenemann**, J. W. Karl, D. M. Browning, and B. Hadley. Integrating remotely-sensed imagery and existing multi-scale field data to derive rangeland indicators: an application of Bayesian additive regression trees. *Rangeland Ecology and Management*.
- IP Herrick, J., J. Karl, S. McCord, **M. Buenemann**, C. Riginos, E. Courtright, J. Van Zee, A. C. Ganguli, J. Angerer, J. R. Brown, D. W. Kimiti, R. Saltzman, A. Beh, and B. Bestelmeyer. Two new mobile apps for rangeland inventory and monitoring by landowners and land managers. *Rangelands*. <http://dx.doi.org/10.1016/j.rala.2016.12.003>.
- 2014 **Buenemann, M.** 2014. Navigating the landscape of academic geography. *The Southwestern Geographer* 17: 6-8.
- 2014 Diallo, D., A. A. Sall, C. T. Diagne, O. Faye, O. Faye, Y., Ba, K. A. Hanley, **M. Buenemann, M.**, and S. Weaver. 2014. Zika virus emergence in mosquitoes in southeastern Senegal, 2011. *Public Library of Science Neglected Tropical Diseases* 9 (10): 1-8. DOI: <http://dx.doi.org/10.1371/journal.pone.0109442>.
- 2014 Myint, S.W., J. Franklin, **M. Buenemann**, W.K. Kim, and C.P. Giri. 2014. Examining change detection approaches for tropical mangrove monitoring. *Photogrammetric Engineering and Remote Sensing* 80 (10): 983-993. DOI: 0.14358/PERS.80.10.983.
- 2014 Diallo, D., A. A. Sall, C. T. Diagne, O. Faye, K. A. Hanley, **M. Buenemann**, Y. Ba, O. Faye, S. C. Weaver, and W. Diallo. 2014. Patterns of a sylvatic yellow fever virus amplification in southeastern Senegal. *American Journal of Tropical Medicine and Hygiene* 90 (6): 1003-1013. DOI 10/4269/ajtmh.13-0404.
- 2013 **Buenemann, M.** 2013. *Teaching geographic information science and technology in higher education*, D. J. Unwin, K. E. Foote, N. J. Tate, and D. DiBiase. Book review. *Photogrammetric Engineering & Remote Sensing* 79 (6): 509-510.
- 2012 Diallo, D., C. T. Diagne, K.A. Hanley, A.A. Sall, **M. Buenemann**, Y. Ba, I. Dia, S.C. Weaver, and M. Diallo. 2012. Larval ecology of mosquitoes in sylvatic arbovirus foci in southeastern Senegal. *Parasites & Vectors* 5: 286. DOI 10.1186/1756-3305-5-286.
- 2012 Diallo, D., A.A. Sall, **M. Buenemann**, R. Chen, O. Faye, C. T. Diagne, O. Faye, Y. Ba, I. Diagne, D. Watts, S.C. Weaver, K.A. Hanley, and M. Diallo. 2012. Landscape ecology of sylvatic chikungunya virus and mosquito vectors in southeastern Senegal. *Public Library of Science Neglected Tropical Diseases* 6 (6): 1-14. DOI 10.1371/journal.pntd.0001649.
- 2012 **Buenemann, M.** 2012. *Why 'where' matters: understanding and profiting from GPS, GIS, and Remote Sensing*, R. Ryerson and S. Aronoff. Book review. *Photogrammetric Engineering & Remote Sensing* 78 (7): 666-667.
- 2011 **Buenemann, M.** 2011. Application of geospatial technologies for monitoring and assessing sustainable land management. In *Understanding desertification and land degradation trends. Proceedings of the UNCCD First Scientific Conference, 22-24 September 2009, Buenos Aires, Argentina*, eds. M. Winslow, S. Sommer, H. Bigas, C. Martius, J. Vogt, M. Akhtar-Schuster and R. Thomas, 39-42. Luxembourg: Office for Official Publications of the European Countries. DOI 10.2788/62563.
- 2011 Clifford, M.J.<sup>MS</sup>, N.S. Cobb, and **M. Buenemann**. 2011. Long-term tree cover dynamics in a pinyon-juniper woodland: climate-change-type drought resets successional clock. *Ecosystems* 14 (6): 949-962. DOI 10.1007/s10021-011-9458-2.

- 2011 McCarville, D.<sup>MS</sup>, **M. Buenemann**, M. Bleiweiss, and J. Barsi. Atmospheric correction of Landsat thermal infrared data: a calculator based on North American Regional Reanalysis (NARR) data. In *Proceedings of the American Society for Photogrammetry and Remote Sensing Conference, 1-5 May 2011*, 12 pages.
- 2011 Whalley, W.B., A. Saunders, R.A. Lewis, **M. Buenemann**, and P.C. Sutton. 2011. Curriculum development: producing geographers for the 21<sup>st</sup> century. *Journal of Geography in Higher Education* 35 (3): 379-393. DOI 10.1080/03098265.2011.589827.
- 2011 **Buenemann, M.**, C. Martius, J.W. Jones, S.M. Herrmann, D. Klein, M. Mulligan, M. Reed, M. Winslow, R.A. Washington-Allen, R. Lal, and D. Ojima. 2011. Integrative geospatial approaches for the comprehensive monitoring and assessment of land management sustainability: rationale, potentials, and characteristics. *Land Degradation and Development* 22 (2): 226-239. DOI 10.1002/ldr.1074.
- 2011 Reed, M.S., **M. Buenemann**, J. Athlopheng, M. Akhtar-Schuster, F. Bachmann, G. Bastin, H. Bigas, R. Chanda, A.J. Dougill, W. Essahli, A.C. Evely, L. Fleskens, N. Geeson, J.H. Glass, R. Hessel, J. Holden, A. Ioris, B. Kruger, H.P. Liniger, W. Mphinyane, D. Nainggolan, J. Perkins, C.M. Raymond, C.J. Ritsema, G. Schwilch, R. Sebege, M. Seely, L.C. Stringer, R. Thomas, S. Twomlow, S. Verzandvoort. 2011. Cross-scale monitoring and assessment of land degradation and sustainable land management: a methodological framework for knowledge management. *Land Degradation and Development* 22 (2): 261-271. DOI 10.1002/ldr.1087.
- 2010 **Buenemann, M.** and J. Wright. 2010. Southwest transformation: eras of growth and land-use land-cover change in Las Cruces, New Mexico. *The Southwestern Geographer* 14: 57-87.
- 2010 **Buenemann, M.** 2010. Spatial resolution. In *Encyclopedia of geography*, ed. B. Warf. London: SAGE Publications Ltd., pp. 2659-2663.
- 2009 **Buenemann, M.** 2009. *Aridland springs in North America: Ecology and conservation*, eds. L. E. Stevens and V. J. Meretsky. Book review. *Geographical Review* 99 (2): 279-281.
- 2007 **Buenemann, M.** 2007. Quantifying the spatio-temporal dynamics of woody plant encroachment: an integrative remote sensing, GIS, and spatial modeling approach. Ph.D. Dissertation, Department of Geography, The University of Oklahoma, Norman, OK, 468 pp.

#### PRESENTATIONS (FIRST AUTHOR AND PRESENTER)

<sup>DS</sup> Doctoral Student, <sup>MS</sup> Master's Student, <sup>US</sup> Undergraduate Student  
<sup>PaP</sup> Paper Presentation, <sup>PoP</sup> Poster Presentation, <sup>IP</sup> Illustrated Paper Presentation  
<sup>IP</sup> Invited presentation

- 2016 **Buenemann, M.**, C. van der Waal, and J. Herrick: Woody plant cover mapping in drylands using remotely sensed and crowdsourced field data. Annual Meeting of the American Association of Geographers, San Francisco, CA, 29 March 2016.<sup>PaP</sup>
- 2015 **Buenemann, M.:** Scale matters in land system science. Department of Geology and Geography, West Virginia University, Morgantown, WV, 4 December 2015.<sup>PaP, IP</sup>

- 2015 **Buenemann, M.:** Geospatial technologies: mapping a difference in the earth sciences. Department of Geological Sciences, New Mexico State University, Las Cruces, NM, 18 November 2015.<sup>PaP, IP</sup>
- 2015 **Buenemann, M.:** Land system science: principles, applications, and issues of scale. Department of Geography and Environment. Department of Geography and University of Denver, Denver, CO, 29 October 2015.<sup>PaP, IP</sup>
- 2015 **Buenemann, M.:** Land system science: principles, applications, and issues of scale. Department of Geography and Environmental Studies, University of New Mexico, Albuquerque, NM, 1 May 2015.<sup>PaP, IP</sup>
- 2015 **Buenemann, M, H. Throop, and D. Eldridge.:** Soil carbon pools and their spatial variability along environmental gradients in New South Wales, Australia. Annual Meeting of the American Association of Geographers, Chicago, IL, 24 April 2015.<sup>PaP</sup>
- 2014 **Buenemann, M.:** Scale issues in land system studies. Annual Meeting of the American Association of Geographers, Tampa, FL, 8-12 April 2014.<sup>PaP</sup>
- 2014 **Buenemann, M.:** Sensitivity of land change intensity observations to spatial scale. Global Land Project Open Science Meeting, Berlin, Germany, 19-21 March 2014.<sup>PaP</sup>
- 2013 **Buenemann, M.** Scale issues in land system studies. Department of Geography and Environmental Sustainability, University of Oklahoma, Norman, OK, 22 November 2013.<sup>PaP, IP</sup>
- 2013 **Buenemann, M.:** Spatio-temporal dynamics of exurbanization in the Southwest Sun Belt. Annual Meeting of the American Association of Geographers, Los Angeles, CA, 9-13 April 2013.<sup>PaP</sup>
- 2012 **Buenemann, M.:** Intensities and patterns of land transformations: the case of the northern Chihuahuan Desert. Annual Meeting of the Southwest Division of the American Association of Geographers, Las Cruces, NM, 26 October 2012.<sup>PoP</sup>
- 2012 **Buenemann, M.** and K. Hestir: Urban encroachment in southern New Mexico: another threat to the Chihuahuan Desert. International Drylands Symposium: Learning from Legacies, Sustaining the Future, Las Cruces, NM, 12 July 2012.<sup>PaP</sup>
- 2012 **Buenemann, M.:** Assessing woody plant encroachment using multiple endmember spectral mixture analysis and fuzzy logic-based change detection. Wildland Shrub Symposium, Las Cruces, NM, 21 May 2012.<sup>PaP</sup>
- 2012 **Buenemann, M.:** Effects of spatial resolution on rates and patterns of land change. Annual Meeting of the American Association of Geographers, New York, NY, 28 February 2012.<sup>PaP</sup>
- 2011 **Buenemann, M.** and K. Hestir<sup>MS</sup>: Land transitions in the Chihuahuan Desert: a quarter-century of change. Annual Meeting of the Southwest Division of the American Association of Geographers, Austin, TX, 11 November 2011.<sup>PaP</sup>
- 2011 **Buenemann, M.:** Integrative geospatial approaches for assessing land change. Department of Animal and Range Sciences, Las Cruces, NM, 15 September 2011.<sup>PaP, IP</sup>
- 2011 **Buenemann, M.:** Characterizing land change and ecosystem service hotspots in the Desert Southwest: results from southwestern New Mexico. Annual Meeting of the American Association of Geographers, Seattle, WA, 16 April 2011.<sup>PaP</sup>
- 2010 **Buenemann, M., J. Wright, and K. Hestir<sup>MS</sup>:** Growtopia in the sun belt: rates and

- patterns of land change around Las Cruces, New Mexico, 1984-2009. Annual Meeting of the American Association of Geographers, Washington, DC, 16 April 2010.<sup>PaP</sup>
- 2009 **Buenemann, M.** Geographic information science and technology for monitoring and assessing sustainable land management. United Nations Convention to Combat Desertification, Ninth Session of the Conference of the Parties, Scientific Conference. Buenos Aires, Argentina, 23 September 2009.<sup>PaP</sup>
- 2009 **Buenemann, M., J. Wright, and K. Hestir<sup>MS</sup>.** Growtopia in the sun belt: 50 years of land cover change in southwestern New Mexico. NMSU University Research Council Fair, Las Cruces, NM, 21 September 2009.<sup>PoP</sup>
- 2009 **Buenemann, M., J. Wright, and K. Hestir<sup>MS</sup>.** Growtopia in the sun belt: 50 years of land cover change in southwestern New Mexico. Long-Term Ecological Research All Scientists Meeting. Estes Park, CO, 9 September 2009.<sup>PoP</sup>
- 2009 **Buenemann, M.** Land change modeling and Jornada Basin long-term ecological research. Jornada Symposium. Las Cruces, NM, 16 July 2009.<sup>PaP</sup>
- 2009 **Buenemann, M.:** Impacts of a global change-type drought: tree mortality in the pinyon-juniper woodlands of the Middle Rio Grande River Basin, NM. Annual Meeting of the American Association of Geographers, Las Vegas, NV, 25 March 2009.<sup>PaP</sup>
- 2009 **Buenemann, M.:** Mapping vegetation in drylands: A sub-pixel remote sensing approach. Annual Meeting of the Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing, Albuquerque, NM, 14 March 2009.<sup>PaP</sup>
- 2008 **Buenemann, M.** Solutions from out of space: vegetation assessments using remote sensing. School of Forestry, Northern Arizona University, Flagstaff, AZ, 5 November 2008.<sup>PaP, IP</sup>
- 2008 **Buenemann, M.:** Battle on the range: A geographer's view of the brush problem. Annual Meeting of the Southwest Division of the American Association of Geographers, San Marcos, TX, 23 October 2008.<sup>PaP</sup>
- 2008 **Buenemann, M.:** Accuracy assessment of subpixel land cover fraction estimates derived from medium spatial resolution satellite imagery: An approach for dryland ecosystems. Annual Meeting of the American Association of Geographers Annual Meeting, Boston, MA, 15 April 2008.<sup>PaP</sup>
- 2008 **Buenemann, M.:** Geospatial modeling of subtle land cover changes: overview and outlook. Arizona-Nevada Academy of Science Annual Meeting, Phoenix, AZ, 29 March 2008.<sup>PaP</sup>
- 2008 **Buenemann, M.** Battle on the range: spatio-temporal dynamics of woody plant encroachment in the Fish Creek Watershed, OK. Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ, 14 February 2008.<sup>PaP, IP</sup>
- 2008 **Buenemann, M.** Battle on the range: spatio-temporal dynamics of woody plant encroachment in the Fish Creek Watershed, OK. Northern Arizona University Student Chapter of the American Society for Photogrammetry and Remote Sensing, Flagstaff, AZ, 7 February 2008.<sup>PaP, IP</sup>
- 2007 **Buenemann, M.:** Quantifying the spatio-temporal dynamics of woody plant encroachment: an integrative remote sensing, GIS, and spatial modeling approach. Research Insights in Semiarid Ecosystems (RISE) Annual Symposium, Tucson, AZ, 6 October 2007.<sup>PoP</sup>

- 2007 **Buenemann, M.:** Characterizing the phenology of drylands: challenges and potentials of current and future remote sensing approaches. Phenology Research and Observations of Southwest Ecosystems (PROSE) Annual Symposium, Tucson, AZ, 5 October 2007.<sup>PaP</sup>
- 2007 **Buenemann, M.:** Vulnerability of drylands to creeping environmental phenomena: An assessment using three spatial models. Annual Meeting of the American Association of Geographers, San Francisco, CA, 20 April 2007.<sup>PaP</sup>
- 2006 **Buenemann, M.:** Why we don't know more about woody plant encroachment: A lack of interdisciplinary collaboration and participation by geographers. Annual Meeting of the American Association of Geographers, Chicago, IL, 11 March 2006.<sup>PaP</sup>
- 2006 **Buenemann, M.:** Identifying sites for riparian ecosystem restoration: Challenges and potentials of hyperspectral and LIDAR imagery. Canaan Valley Institute, Blacks Run Restoration Project Implementation Meeting, Harrisonburg, VA, 24 January 2006.<sup>PaP</sup>
- 2006 **Buenemann, M.:** A coupled remote sensing, GIS, and spatial modeling approach for the assessment of woody plant encroachment. Shenandoah Valley GIS Users Conference, Harrisonburg, VA, 20 January 2006.<sup>PaP</sup>
- 2005 **Buenemann, M.:** Modeling the spatio-temporal dynamics of woody plant encroachment through an integrative remote sensing, GIS, and spatial modeling approach. Annual Meeting of the American Association of Geographers, Denver, CO, 6 April 2005.<sup>PaP</sup>
- 2004 **Buenemann, M.:** Characterization of woody plant encroachment using multiple endmember spectral mixture analysis of multi-temporal Landsat Thematic Mapper data. Annual Meeting of the Southwest Division of the American Association of Geographers, Nacogdoches, TX, 12 November 2004.<sup>PaP</sup>

#### **PRESENTATIONS BY OTHERS (CO-AUTHOR)**

<sup>DS</sup> Doctoral Student, <sup>MS</sup> Master's Student, <sup>US</sup> Undergraduate Student  
<sup>PaP</sup> Paper Presentation, <sup>PoP</sup> Poster Presentation, <sup>IIP</sup> Illustrated Paper Presentation

- 2016 Lopez-Brody, N. <sup>MS</sup> and **M. Buenemann.** Modeling the impact of woody plants on desert bighorn sheep habitat in the San Andres Mountains, New Mexico, U.S.A. Annual Meeting of the Southwest Division of the American Association of Geographers, Denton, TX, 21 October 2016.<sup>PaP</sup>
- 2016 Mundis, S. <sup>MS</sup>, **M. Buenemann**, K. Hanley, and N. Lopez-Brody<sup>MS</sup>. Spatial distribution of mosquitoes that vector Zika, dengue, and West Nile virus in New Mexico. Annual Meeting of the Southwest Division of the American Association of Geographers, Denton, TX, 21 October 2016.<sup>PaP</sup>
- 2016 Dialesandro, J. <sup>MS</sup> and **M. Buenemann:** Seasonal variations in the relationships between land surface temperature and land cover along an urban-rural gradient. Annual Meeting of the American Association of Geographers, San Francisco, CA, 30 March 2016.<sup>PaP</sup>
- 2016 Lopez-Brody, N. <sup>MS</sup>, **M. Buenemann**, and M. Weisenberger: Spatio-temporal dynamics of woody plants and bighorn sheep in the San Andres Mountains, New Mexico, U.S.A., Annual Meeting of the American Association of Geographers, San Francisco, CA, 30 March 2016.<sup>PaP</sup>
- 2016 Baker, H. <sup>MS</sup>, **M Buenemann**, C. van der Waal, and J. Herrick: Relationships between bush cover and soil erosion: an assessment using remote sensing, geographic information

- system, and crowdsourcing technologies. Annual Meeting of the American Association of Geographers, San Francisco, CA, 29 March 2016.<sup>PaP</sup>
- 2015 Taraschi, Z.<sup>US</sup>, J. Dialesandro<sup>MS</sup>, and **M. Buenemann.**: Hot pecans: quantifying the urban heat island effect in the Mesilla Valley, 2014. Annual Meeting of the Southwest Division of the American Association of Geographers, San Antonio, TX, 6 November 2015.<sup>PaP</sup>
- 2015 Lopez-Brody, N.<sup>MS</sup> and **M. Buenemann.**: Spatio-temporal dynamics of woody plants and desert bighorn sheep in the San Andres Mountains, New Mexico, USA. Annual Meeting of the Southwest Division of the American Association of Geographers, San Antonio, TX, 5 November 2015.<sup>PaP</sup>
- 2015 Baker, H.<sup>MS</sup> and **M. Buenemann.**: Relationships between bush cover and soil erosion: an assessment using remote sensing, geographic information system, and crowdsourcing technologies. Annual Meeting of the Southwest Division of the American Association of Geographers, San Antonio, TX, 5 November 2015.<sup>PaP</sup>
- 2015 Sabie, R. P. and **M. Buenemann.**: Monitoring surface coal mines in drylands using remote sensing. Annual Spring Meeting of the Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing, Las Cruces, NM, 11 April 2015.<sup>PaP</sup>
- 2014 Sabie, R. P.<sup>MS</sup> and **M. Buenemann.**: Remote sensing for monitoring surface coal mine reclamation in drylands. Annual Meeting of the Southwest Division of the American Association of Geographers, Albuquerque, NM, 24 October 2014.<sup>PaP</sup>
- 2014 Throop, H., D. Eldridge, and **M. Buenemann.**: Aridity and plant functional type influence soil carbon pools across an Australian aridity gradient.. Annual Meeting of the Ecological Society of America, Sacramento, CA, 10-15 August 2014.<sup>PoP</sup>
- 2014 Van Arnam, S.<sup>US</sup> and **M. Buenemann.**: Rates and patterns of forest fragmentation in ski resorts: a case study of Eldora Mountain Resort, Colorado, U.S.A.. Annual Meeting of the American Association of Geographers, Tampa, FL, 8-12 April 2014.<sup>PaP</sup>
- 2014 Colodner, A. G.<sup>DS</sup>, A. F. Cibils, Dawn VanLeeuwen, **M. Buenemann**, and Timothy: Use of MODIS-derived vegetation green-up parameters to predict reproductive performance of sheep on rangeland. 67th Annual Meeting of the Society for Range Management, Orlando, FL, 11 February 2014.<sup>PaP</sup>
- 2013 Prileson, V. K.<sup>MS</sup>, A. F. Cibils, **M. Buenemann**, C. M. Steele, E. J. Schollegardes, D. K. James, R. L. Dunlap, S. H. Cox, W. Taylor, and S. Lopez: Environmental characterization of rangeland pastures in piñon-juniper grassland mosaics in central New Mexico, U.S.A. Annual Meeting of the Society for Range Management, Oklahoma City, OK, 2-8 February 2013.<sup>PaP</sup>
- 2013 Prileson, V.J.<sup>MS</sup>, A. F. Cibils, R. H. Peinetti, **M. Buenemann**, C. M. Steele, M. A. Brizuela, M. S. Cid, E. J. Schollegardes, R. L. Dunlap, S. H. Cox, and W. Taylor: Factors affecting seasonal resource selection patterns of young cows grazing piñon-juniper grassland mosaics. Annual Meeting of the Society for Range Management, Oklahoma City, OK, 2-8 February 2013.<sup>PaP</sup>
- 2013 Colodner, A. G.<sup>DS</sup>, A. F. Cibils, **M. Buenemann**, and S. H. Cox: Can growing season dynamics characterized with weekly MODIS satellite images predict sheep reproductive performance on New Mexico rangelands? Winter Meeting of the New Mexico Section of the Society for Range Management, Las Cruces, NM, 10 January 2013.<sup>PaP</sup>

- 2012 Prileson, V. K.<sup>MS</sup>, A. F. Cibils, **M. Buenemann**, C. M. Steele, E. J. Schollegardes, D. K. James, R. L. Dunlap, S. H. Cox, W. Taylor, and S. Lopez: Environmental characterization of rangeland pastures in piñon-juniper grassland mosaics in central New Mexico, U.S.A. Annual Meeting of the Southwest Division of the American Association of Geographers, Las Cruces, NM, 26 October 2012.<sup>PoP</sup>
- 2012 Richman, R.<sup>MS</sup>, **M. Buenemann**, and K. Hanley: Spatial analysis of the transmission of sylvatic dengue and chikungunya. Annual Meeting of the Rio Grande Branch of the American Society for Microbiology, Las Cruces, NM, 25 February 2012.<sup>PoP</sup>
- 2011 McCarville, D.<sup>MS</sup>, **M. Buenemann**, M. Bleiweiss, and J. Barsi. Atmospheric correction of Landsat thermal infrared data: a calculator based on North American Regional Reanalysis (NARR) data. Annual Conference of the American Society for Photogrammetry and Remote Sensing, Milwaukee, WI, 3 May 2011.<sup>PaP</sup>
- 2011 Hestir, K.<sup>MS</sup>, and **M. Buenemann**: Remote sensing assessment of land cover change in the Mesilla Valley, New Mexico, 1985-2009. Annual Conference of the American Society for Photogrammetry and Remote Sensing, Milwaukee, WI, 3 May 2011.<sup>PoP</sup>
- 2011 Garton, E.<sup>US</sup>, **M. Buenemann**, and J. Rogan: Applying ecological niche theory to model the spread of the invasive Hemlock woolly adelgid in Massachusetts using Weights of Evidence. Annual Meeting of the American Association of Geographers, Seattle, WA, 13 April 2011.<sup>PpP</sup>
- 2011 Pacheco, A.<sup>US</sup>, **M. Buenemann**, J. Rogan, T. Wright, and A. Klimaszewski-Patterson: Fragmentation of private and public forestland in Massachusetts, USA (1990 and 2009). Annual Meeting of the American Association of Geographers, Seattle, WA, 13 April 2011.<sup>IIP</sup>
- 2011 McCarville, D.<sup>MS</sup>, **M. Buenemann**, M. Bleiweiss, and J. Barsi. Atmospheric correction of Landsat thermal infrared data: a calculator based on North American Regional Reanalysis (NARR) data. Annual Spring Meeting of the Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing, Las Cruces, NM, 2 April 2011.<sup>PaP</sup>
- 2011 Pacheco, A.<sup>US</sup>, **M. Buenemann**, J. Rogan, T. Wright, and A. Klimaszewski-Patterson: Fragmentation of private and public forestland in Massachusetts, USA (1990 and 2009). Annual Spring Meeting of the Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing, Las Cruces, NM, 2 April 2011.<sup>IIP</sup>
- 2011 Hestir, K.<sup>MS</sup>, and **M. Buenemann**: Land cover classification in the Mesilla Valley: an evaluation of remote sensing approaches. Annual Spring Meeting of the Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing, Las Cruces, NM, 2 April 2011.<sup>IIP</sup>
- 2011 McCarville, D.<sup>MS</sup>, **M. Buenemann**, M. Bleiweiss, and J. Barsi. Atmospheric correction of Landsat thermal infrared data: a calculator based on North American Regional Reanalysis (NARR) data. New Mexico State University Graduate Research & Arts Symposium, Las Cruces, NM, 1 March 2011.<sup>PaP</sup>
- 2011 Pacheco, A.<sup>US</sup>, **M. Buenemann**, J. Rogan, T. Wright, and A. Klimaszewski-Patterson: Fragmentation of private and public forestland in Massachusetts, USA (1990 and 2009). New Mexico State University Graduate Research & Arts Symposium, Las Cruces, NM, 1 March 2011.<sup>PoP</sup>



- 2011 Hestir, K.<sup>MS</sup>, and **M. Buenemann**: Land cover classification in the Mesilla Valley: an evaluation of remote sensing approaches. New Mexico State University Graduate Research & Arts Symposium, Las Cruces, NM, 1 March 2011.<sup>Pop</sup>
- 2010 Hestir, K.<sup>MS</sup>, and **M. Buenemann**: Land change in the Mesilla Valley, 1985-2009. Jornada Symposium, Las Cruces, NM, 10 July 2010.<sup>PaP</sup>

#### EXTERNAL GRANTS, FELLOWSHIPS, AND SCHOLARSHIPS

- Pending National Science Foundation, Major Research Instrumentation Grant (PI: Michaela Buenemann; 08/01/2017-07/31/2018). MRI: Acquisition of an ASD FieldSpec 4 Hi-Res Spectroradiometer at NMSU. Collaborator. \$118,400.
- Pending NM Tobacco Settlement Revenue Grant (PIs: Kathryn Hanley and Immo Hansen; 06/30/2017-05/31/2017). Safeguarding New Mexico from the spread of mosquito-borne viruses. Collaborator. \$636,816.
- 2016-2020 National Institutes of Health, Grant NIH-ICIDR 1U01AI115577-01 (PI: Nikos Vasilakis). Mechanisms and public health impact of sylvatic dengue virus emergence in Borneo. Collaborator. \$3,166,711.
- 2017-2018 New Mexico Department of Health Contract (PI: Kathryn Hanley). Characterization and control of *Aedes* mosquito vectors in New Mexico SNM DOH. Co-Investigator. \$150,000.
- 2013-2017 United States Agency for International Development (PI: Jeff Herrick). Land-Potential Knowledge System (LandPKS). Collaborator. \$5,000,000.
- 2016 New Mexico Department of Health Contract (PI: Kathryn Hanley). Mapping the range and distribution of *Aedes aegypti* and *Ae. albopictus* in New Mexico. Co-Investigator. \$105,000.
- 2012-2018 National Science Foundation, Grant DEB-0618210 (PI: Debra Peters): LTER: Long-Term Research at the Jornada Basin (LTER-VI). Collaborator. \$5,880,000.
- 2009-2012 National Science Foundation, Grant DEB-0618210 (PI: Debra Peters; 11/1/2006-10/31/2013): Jornada Basin LTER V: landscape linkages in arid and semiarid ecosystems. Collaborator. \$5,718,307.
- 2008-2012 National Institutes of Health, Grant NIH-R01 1R01AI069145-01A2 (PI: Scott Weaver; 9/22/2008-9/21/2012). Mechanisms of sylvatic dengue emergence. Collaborator. \$1,892,850.
- 2008-2009 National Geospatial Intelligence Agency, Grant HM157608C0006 (PIs: John Wright and Robert Czerniak): Center of excellence for geospatial science. Collaborator. \$1,000,000.
- 2005 Francis E. "Gene" Lortz Memorial Scholarship, Central Region of the American Society for Photogrammetry and Remote Sensing.
- 2000 Oklahoma NASA Space Grant Scholarship.

#### INTERNAL GRANTS, FELLOWSHIPS, AND SCHOLARSHIPS

- 2013 College of Arts & Sciences, New Mexico State University, Course Release Award.

- 2011-2012 College of Arts & Sciences, New Mexico State University, MiniGrant: Magnitude and patterns of tree die-off in pinyon-juniper woodlands of the U.S. Southwest: impacts of a global change-type drought. Principal Investigator. \$2,607.
- 2004 GSS Conference and Creative Exhibition Grant, Graduate Student Senate, University of Oklahoma.
- 2004 Robberson Research Grant, Graduate College, University of Oklahoma.
- 2001-2005 Alumni Graduate Fellowship, University of Oklahoma.
- 2000-2005 Graduate Teaching Assistantship, Department of Geography, University of Oklahoma.
- 2000 Ralph and Margaret Olson Geography Scholarship, Department of Geography, University of Oklahoma.
- 1997-1999 Undergraduate Research Assistantship, Department of Geography, Universität-Gesamthochschule Paderborn, Germany.

#### **PRE-PH.D. RESEARCH EXPERIENCE**

- 2004-2005 Project Coordinator, Department of Geography, University of Oklahoma. Project: Design and development of a web-enabled 3D-GIS model of historical sites in Luxor, Egypt.
- 2002 Research Assistant, Department of Geography, University of Oklahoma. Project: Drought Perceptions of West Africans.
- 2000 Research Assistant, Department of Geography, University of Oklahoma. Project: Ground validation of satellite imagery in Oklahoma.
- 1999 Research Intern, German Remote Sensing Data Center, Oberpfaffenhofen, Germany. Projects: Desertification management in Ethiopia (Rift Valley), GIS Aral Sea, Visualization of Remote Sensing Data with 3D-Animations: Virtual Flight across Eastern Westphalia.
- 1997 Intern. AAA Travel Agency, Westerkappeln, Germany.
- 1996-2007 Field work in various settings in Germany, Austria, Norway, Egypt, Nicaragua, Costa Rica, and the United States. Field work included activities such as geomorphological mapping, land evaluation, collection of ground reference data for remote sensing studies, vegetation and soil sampling; and interviews.

#### **TEACHING**

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##### **COURSES TAUGHT**

##### **2008-Present, Department of Geography, New Mexico State University**

Geography of the Natural Environment w/ Lab (GEOG 111G)

Map Use w/ Lab (GEOG 281)

Cartography and GIS w/ Lab (GEOG 381/571)

Field Explorations in Geography, Two-Week Summer Field Trip (GEOG 483/583)

Field Explorations in Geography, Local Mini-Semester Course (GEOG 483/583)

Southwest Environments (GEOG 455/555)

Introduction to Remote Sensing w/ Lab (GEOG 373/571)

Advanced Remote Sensing w/ Lab (GEOG 473/582)

Geographic Thought and Research Design (GEOG 501)

Geospatial Techniques for Natural Resource Assessment (GEOG 586)

### **2007-2008, Department of Geography and Regional Development, University of Arizona**

Earth's Environment: Introduction to Physical Geography w/ Lab (NATS 101)

Our Diverse Biosphere (GEOG 220)

Field Study in Environmental Geography (GEOG 303)

Environmental and Resource Geography (GEOG 461)

### **2005-2007, Department of Integrated Science and Technology, James Madison University**

Introduction to Physical Geography w/ Lab (GEOG 210)

Introduction to Remote Sensing w/ Lab (GEOG 285)

Advanced Remote Sensing w/ Lab (GEOG 385)

U.S. National Parks (GEOG 450)

The World's Drylands: Land Degradation and Sustainable Development (GEOG 450)

Field Studies (GEOG 315)

Special Studies in Geography (GEOG 490)

International Renewable Energy Perspectives and Applications (ISAT 480, GSCI 104)

International Field Experience in Nicaragua and Costa Rica (various ISAT/GEOG)

### **2000-2005, Department of Geography, University of Oklahoma**

Physical Geography, Lecture & Lab (GEOG 1114)

## **GRADUATE STUDENT COMMITTEES**

### **Committee Chair**

\*Anticipated graduation year

2018\* Gertrud "Sierra" Aney, M.A.G., Geography, NMSU. Topic TBD ~ Response of drylands vegetation to droughts.

2017\* Stephanie Mundis, M.A.G., Geography, NMSU. Spatial distribution of mosquitoes that vector Zika, dengue, and West Nile Virus in New Mexico.

2017\* Nathan Lopez-Brody, M.A.G., Geography, NMSU. Spatio-temporal dynamics of woody plants and desert bighorn sheep in the San Andres Mountains, New Mexico, USA.

2017\* Matt Vogt, M.A.G., Geography, NMSU. Assessing the accuracy of SfM-derived point clouds for obtaining tree canopy heights in Pacific Northwest conifer forests.

2017 Holly Baker, M.A.G., Geography, NMSU. Modeling the effects of woody plant removal

- on soil erosion using mobile crowdsourcing and geospatial data and methods.
- 2016 Robert Sabie, M.A.G., Geography, NMSU. Assessing the effectiveness of remediation surrounding the Black Mesa / Kayenta mines in northern Arizona using remote sensing.
- 2015 Sarah McCord, M.A.G., Geography, NMSU. Integrating remotely sensed imagery and existing multi-scale field data to derive rangeland indicators: an application of Bayesian additive regression trees.
- 2014 Amalia Slaughter, M.A.G., Geography, NMSU. The utility of multispectral imagery from an unmanned aircraft system for determining the spatial distribution of *Eragrostis lehmanniana* (Lehmann lovegrass) in rangelands.
- 2014 Josh Baldwin, M.A.G., Geography, NMSU. Landscape changes in the Greater Gila Ecosystem: a geospatial analysis.
- 2013 Rebecca Richman, M.A.G., Geography, and M.S., Biology, NMSU. Spatial and temporal analysis of the mosquito vectors of sylvatic dengue and chikungunya viruses. – Started job as support analyst at ESRI.
- 2011 Bradley Griggs, M.A.G., Geography, NMSU. Urbanization and microclimate in the Middle Rio Grande Conservancy District, New Mexico. – Started a job as a GIS / Remote Sensing Specialist at HydroBio.
- 2011 Kristen Hestir, M.A.G., Geography, NMSU. Land cover classification and change detection in drylands: an evaluation of remote sensing approaches. – Started a job as a GIS / Remote Sensing Scientist at Vista Sciences Corporation.
- 2011 Dennis McCarville, M.A.G., Geography, NMSU. Landsat thermal infrared imagery: new approaches for its atmospheric correction and use for rapid irrigation area assessment. – Entered the Ph.D. program in Civil Engineering at NMSU.

### **Committee Member**

\*Anticipated graduation year

- 2019\* Joseph Medwid, M.S., Biology, NMSU. Topic TBD ~ Mosquito-environment relationships in Sarawak. Major advisor: Kathryn Hanley.
- 2018\* Katie Young, Ph.D., Biology, NMSU. Topic TBD ~ Mosquito-environment relationships in Sarawak. Major advisor: Kathryn Hanley.
- 2017\* Ian Perkins-Taylor, M.S., Fish, Wildlife, and Conservation Ecology, NMSU. Occupancy modeling and species distribution modeling to monitor the Oscura Mountain Chipmunk. Major advisor: Jennifer Fry.
- 2017\* Ana G. Colodner, Ph.D., Range Science, NMSU. Modeling livestock productivity and grazing behavior using multitemporal vegetation analyses of short-term remotely sensed imagery in a semiarid rangeland. Major advisor: Andrés Cibils.
- 2017 Jacob Buettner, M.S., Geology, NMSU. Geochemical evaluations and <sup>226</sup>RA geochronology of the 946, 1668, and 1903 CE trachytic and latitic pumice deposits from Changbasihan Volcano, China. Major advisor: Frank Ramos.
- 2016 Andrew Meyers, M.S., Fish, Wildlife, and Conservation Ecology, NMSU. Breeding season survival, resource selection, and seasonal use of Conservation Reserve Program and shinnery oak habitat by lesser prairie chickens in eastern New Mexico. Major advisor: Scott Carleton.

- 2015 Steve Walker, M.A.G., Geography, NMSU. Examining aquifer pollution sensitivity in the Central Paso de Norte Region using the DRASTIC model. Major advisor: Christopher P. Brown.
- 2014 Rosie Williams, M.S., Geology, NMSU. Sedimentation and magmatism of Proterozoic rocks in the Redrock area, Burro Mountains, southwest New Mexico: revealing a new Grenville locality in the U.S. Southwest. Major advisor: Jeffrey M. Amato.
- 2014 Ken Peterson, M.S., Water Science and Management, NMSU. Snowmelt runoff predictions for the Big Thompson headwaters under a changed climate. Major advisor: Al Rango.
- 2013 Vanessa J. Prileson, M.S., Range Science, NMSU. Resource selection patterns of cattle grazing a piñon-juniper-grassland mosaic in New Mexico, U.S.A. Major advisor: Andrés Cibils.
- 2012 Tara Nicole Jonell, M.S., Geology, NMSU. Stratigraphy, geochronology, and geochemistry of Eocene-Oligocene volcanic rocks of the Schoolhouse Mountain caldera, Burro Mountains, southwest New Mexico. Major advisor: Jeffrey M. Amato.
- 2012 John C. Gilbert, M.S., Geology, NMSU. Age and provenance of the Glance Conglomerate, Morita Formation, and equivalent strata from U-Pb geochronology, southeastern Arizona and southwestern New Mexico. Major advisor: Timothy F. Lawton.
- 2012 Sean Scott, M.S., Geology, NMSU. Spreading dynamics of an intermediate ridge: insights from uranium series disequilibria, Endeavor segment, Juan de Fuca Ridge. Major advisor: Frank C. Ramos.
- 2011 Jon Williams, M.A.G., Geography, NMSU. The geography of Buddhism as a proxy for spiritual awakening in the Four Corners states. Major advisor: John B. Wright.
- 2009 Sam Schmitt, M.P.A., Public Administration, NMSU. Colonias in southern New Mexico. Major advisor: Diane-Michele Prindeville.

## **SERVICE**

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### **NEW MEXICO STATE UNIVERSITY**

#### **Department**

- 2011-Present Webmaster, Department of Geography.
- 2011-Present Founder and Master, Department of Geography Facebook Page.
- 2011-Present Founder and Master, Facebook Pages for the Department of Geography Student Organizations: Geography Graduate Student Organization, Kappa Xi Chapter of Gamma Theta Upsilon, and Geography Club.
- 2010-Present Faculty Advisor, Geography Graduate Student Organization.
- 2009-Present Member, Department of Geography Awards Committee.
- 2009-Present Member, Department of Geography Newsletter Committee.
- 2009-Present NMSU Library Liaison for the Department of Geography.
- 2008-Present Miscellaneous service (e.g., undergraduate advising)

## **College**

- 2014-Present Member, College of Arts and Sciences Research Affairs Committee.  
2011-2014 Member, College of Arts and Sciences Scholarship Committee.

## **University**

- 2016 Mentor (to Jiaqi Liang, Department of Government), Team Mentoring for Faculty Program, Teaching Academy.  
2011 Team Leader, Teaching Academy, Publish and Flourish Course.  
2009-Present Founder and Faculty Advisor, New Mexico State University Student Chapter of the American Society for Photogrammetry and Remote Sensing.  
2009-Present Founder and Master, Facebook Page for the New Mexico State University Student Chapter of the American Society for Photogrammetry and Remote Sensing.

## **2007-2008, UNIVERSITY OF ARIZONA**

### **University**

- 2007-2008 Co-Founder and Faculty Advisor, University of Arizona Student Chapter of the American Society for Photogrammetry and Remote Sensing.

## **JAMES MADISON UNIVERSITY**

### **Department**

- 2005-2006 Member, Environment, Information Systems, and Global Studies Teams.  
2005-2006 Member, Geospatial Science Task Force.

### **College**

- 2005-2006 Organizer and Contributor, Geographic Science Program Representation in College of Integrated Science and Technology Open House.

## **2000-2005, UNIVERSITY OF OKLAHOMA**

### **Department**

- 2003-2005 Member, Association of Geography Graduate Students.  
2002-2003 Co-Founder and Vice President, Association of Geography Graduate Students.

### **College**

- 2000-2005 Student Representative, College of Geosciences EduTech Advisory Committee.

### **University**

- 2003-2005 Student Representative, Graduate Council.  
2001-2003 Senator, Graduate Student Senate.

## **PEER REVIEWING**

(Number of manuscripts, proposals, etc. reviewed since Fall 2008.)

*Annals of Epidemiology* (1)

*Annals of the American Association of Geographers* (1)

*Ecosphere* (1)

*Ecosystems* (1)

Freeman / Worth Publishers (1)

Guilford Publications, Inc. (1)

*GIScience and Remote Sensing* (1)

*Infectious Diseases of Poverty* (1)

*International Journal of Applied Geospatial Research* (1)

*International Journal of Geographical Information Science* (2)

*International Journal of Geo-Information* (3)

*International Journal of Remote Sensing* (17)

*Journal of Applied Geography* (2)

*Journal of Arid Environments* (1)

*Journal of Geography and Regional Planning* (1)

*Land* (5)

*Land Degradation & Development* (3)

National Science Foundation, Ad-Hoc (3), Panel (16)

Oxford University Press (1)

*Photogrammetric Engineering & Remote Sensing* (5)

*Remote Sensing* (4)

*Remote Sensing Letters* (4)

*Remote Sensing of Environment* (8)

*Science of the Total Environment* (2)

Springer (1)

*Sustainability* (3)

## **LEADERSHIP IN PROFESSIONAL ORGANIZATIONS**

2016-Present President, Rocky Mountain Region of the American Society for Photogrammetry and Remote Sensing (RMR-ASPRS).

2016 Past Chair, Southwest Division of the American Association of Geographers (SWAAG).

2014-Present Editorial Board Member, *The Southwestern Geographer*.

2015-Present Chapter Director and Rocky Mountain Region Liaison, Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS).

2014-2016 Chair, Southwest Division of the American Association of Geographers (SWAAG).

- 2015-2016 Vice President, Rocky Mountain Region of the American Society for Photogrammetry and Remote Sensing (RMR-ASPRS).
- 2015 Past-President, New Mexico Academy of Science (NMAS).
- 2014-2015 President, Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS).
- 2014 President, New Mexico Academy of Science (NMAS).
- 2014 Secretary, Southwest Division of the American Association of Geographers (SWAAG).
- 2011-2014 Regional Director At-Large, Rocky Mountain Region of the American Society for Photogrammetry and Remote Sensing (RMR-ASPRS).
- 2011-2014 Vice President, Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS).
- 2011-2014 Secretary/Treasurer, Remote Sensing Specialty Group of the American Association of Geographers (RSSG-AAG).
- 2013-2014 President-Elect, New Mexico Academy of Science (NMAS).
- 2013 Treasurer, Southwest Division of the American Association of Geographers (SWAAG).
- 2013 Vice President, New Mexico Academy of Science (NMAS).
- 2011-2012 Member of Nominating Committee, Southwest Division of the American Association of Geographers (SWAAG).
- 2010-2011 Awards Committee Chair, Remote Sensing Specialty Group of the American Association of Geographers (RSSG-AAG).
- 2008-2011 Chapter Director, Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS).
- 2008-2010 Awards Committee Member, Remote Sensing Specialty Group of the American Association of Geographers (RSSG-AAG).

**CONFERENCE ORGANIZATION**

- 2017 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 15 April 2017. Main Organizer.
- 2015 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 16 October 2015. Co-Organizer.
- 2015 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 11 April 2015. Main Organizer.
- 2014 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 17 October 2014. Co-Organizer.
- 2013 New Mexico Academy of Science (NMAS) and New Mexico Experimental Program to Stimulate Competitive Research (NM EPSCoR), Joint Annual Meeting, Albuquerque, NM, 4 November 2013. Co-Organizer.



- 2013 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 11 October 2012. Co-Organizer.
- 2013 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 6 April 2013. Main Organizer.
- 2012 Southwest Division of the American Association of Geographers (SWAAG), Annual Meeting, Las Cruces, NM, 25-27 October 2012. Main Organizer.
- 2012 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 12 October 2012. Co-Organizer.
- 2012 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 7 April 2012. Main Organizer.
- 2011 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 28 October 2011. Co-Organizer.
- 2011 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 2 April 2011. Main Organizer.
- 2010 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 1 October 2010. Co-Organizer.
- 2010 Rio Grande Chapter of the American Society for Photogrammetry and Remote Sensing (RGC-ASPRS), Annual Spring Meeting, Las Cruces, NM, 10 April 2010. Main Organizer.
- 2009 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 2 October 2009. Co-Organizer.
- 2008 Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 10 October 2008. Co-Organizer.

**OTHER SERVICE**

- 2017-Present Editorial Board Member, *Annals of the American Association of Geographers*, Physical Geography and Environmental Sciences section
- 2016-Present Member, National Science Foundation (NSF), Geography and Spatial Sciences Program (GSS), Advisory Panel
- 2016-Present Member, American Association of Geographers (AAG) Program Excellence Award Committee.
- 2016-Present Member, American Society for Photogrammetry and Remote Sensing (ASPRS) Region Officers Council.
- 2016 Master Scorekeeper, World Geography Bowl, Southwest Division of the American Association of Geographers, Annual Meeting, Denton, TX, 20 October 2015.
- 2015-2016 Southwest Division Team Organizer, American Association of Geographers World Geography Bowl.
- 2015 Panel Session Organizer and Chair, Toward a sustainable future for geography: building on strengths and opportunities, Southwest Division of the American Association of Geographers, Annual Meeting, San Antonio, TX, 6 November 2015.

- 2015 Organizer, World Geography Bowl, Southwest Division of the American Association of Geographers, Annual Meeting, San Antonio, TX, 5 November 2015.
- 2015 Judge, Undergraduate Student Paper Competition, Southwest Division of the American Association of Geographers, Annual Meeting, San Antonio, TX, 5 November 2015.
- 2015 Judge, Student Poster Competition, Phenology Research and Observations of Southwest Ecosystems Symposium (PROSE), Annual Meeting, Tucson, AZ, 16 October 2015.
- 2015 Scorekeeper, World Geography Bowl, Annual Meeting of the American Association of Geographers, Chicago, IL, 24 April 2015.
- 2015 Panel Session Organizer and Chair, Supporting women in remote sensing and GIS, Annual Meeting of the American Association of Geographers, Chicago, IL, 24 April 2015.
- 2014 Panel Session Discussant, Collaboration and outreach, Annual Meeting of the Southwest Division of the American Association of Geographers, Albuquerque, NM, 24 October 2014.
- 2014 Judge, Remote Sensing Specialty Group Student Paper Competition, Annual Meeting of the American Association of Geographers, Tampa, FL, 8-12 April 2014.
- 2013 Panel Session Discussant, Career development in academic geography, Annual Meeting of the Southwest Division of the American Association of Geographers, Nacogdoches, TX, 25 October 2013.
- 2013 Organizer, Graduate and undergraduate student paper and poster competitions, Annual Meeting of the Southwest Division of the American Association of Geographers, Nacogdoches, TX, 25 October 2013.
- 2013 Judge, Remote Sensing Specialty Group Student Illustrated Paper Competition, Annual Meeting of the American Association of Geographers, Los Angeles, CA, 9-13 April 2013.
- 2012 Consultant, Geospatial Applied Research Experts House.
- 2012 Judge, New Mexico State University College of Arts & Sciences 3 Minute Thesis Competition, Las Cruces, NM, 3 March 2012.
- 2012 Judge, Remote Sensing Specialty Group Student Illustrated Paper Competition, Annual Meeting of the American Association of Geographers, New York, NY, 24-28 February 2012.
- 2011 Judge, Conference Student Paper Competition, Annual Meeting of the Southwest Division of the American Association of Geographers, Austin, TX, 10-12 November 2011.
- 2011 Designer and Instructor, Classes on “Metadata” and “Coordinate Systems and Projections”, New Mexico Education Designed to Generate Excellence in the Public Sector (NM EDGE), Roswell, NM, 20 June 2011.
- 2011 Judge, Remote Sensing Specialty Group Student Honors Paper Competition, Annual Meeting of the American Association of Geographers, Seattle, WA, 12-16

- April 2011.
- 2010 Representative for Jornada LTER at the Maps and Locals (MALS) Workshop, Fairbanks, AK, 7-10 October 2010.
- 2010 Judge, Phenology Research and Observations of Southwest Ecosystems (PROSE) Annual Symposium, Student Poster Competition, Tucson, AZ, 1 October 2010.
- 2010 Session Chair, Urban Land Use and Planning, Annual Meeting of the American Association of Geographers, Washington, D.C., 16 April 2010.
- 2010 Judge, Remote Sensing Specialty Group Student Honors Paper Competition, Annual Meeting of the American Association of Geographers, Washington, D.C., 14-18 April 2010.
- 2010 Expert Consultant, 2020 Strategic Plan Workshop of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India, 23-25 February 2010.
- 2009-2011 Working Group Member, Committee on Science and Technology Conference, United Nations Convention to Combat Desertification (Includes Working Group Meeting in Bonn, Germany, 2-3 July 2009).
- 2009 Representative for Jornada LTER at the Harvard Forest Scenario Modeling Workshop, Petersham, MA, 1-3 April 2009.
- 2008 Session Chair, Land and Resources in the West, Annual Meeting of the Southwest Division of the American Association of Geographers, San Marcos, TX, 23 October 2008.
- 2008 Judge, Conference Student Paper Competition, Annual Meeting of the Southwest Division of the American Association of Geographers, San Marcos, TX, 23-25 October 2008.
- 2008 Session Chair, Validation and Assessment Issues in Remote Sensing, Annual Meeting of the American Association of Geographers, Boston, MA, 18 April 2008.
- 2008 Discussant, Remote Sensing Applications in Grassland Ecosystems, Annual Meeting of the American Association of Geographers, Boston, MA, 16 April 2008.
- 2004 Session Chair, Forest Dynamics, Annual Meeting of the Southwestern American Association of Geographers, Nacogdoches, TX, 12 November 2004.
- 2004 Presenter and Instructor, GIS Day at the University of Oklahoma.
- 2002 Instructor, Pre-Collegiate Enrichment Program, University of Oklahoma, Norman, OK.
- 2000 Presenter and Instructor, GIS Day at the University of Oklahoma.

## **OUTREACH**

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- 2014-Present Mapping Program Chair, Board Member, New Mexico Search and Rescue Council (NMSARC).

2012-Present Member, Organ Mountain Technical Rescue Squad (OMTRS).

2011-Present Member, New Mexico and Doña Ana County Search and Rescue (DAC SAR).

2016 Instructor, Orienteering Clinic, NMSU Outdoor Recreation Program, Las Cruces, NM, 7 April 2016.

2016 Instructor, Map and Compass Training for Doña Ana County Search and Rescue (DAC SAR), Las Cruces, NM, 19 March 2016.

2016 Instructor, Land Navigation Training for New Mexico Mounted Search and Rescue (NMMSAR), Quebradas, NM, 12 March 2016.

2013-2015 Secretary, New Mexico and Doña Ana County Search and Rescue (DAC SAR).

2015 Past-President, New Mexico Academy of Science (NMAS).

2015 Instructor, Land Navigation with GPS Training for Doña Ana County Search and Rescue (DAC SAR), Las Cruces, NM, 20 September 2015.

2015 Instructor, Map and Compass Course, GIS for Search and Rescue Course, Land Navigation with Map, Compass, and GIS Course, New Mexico Search and Rescue Council (NMSARC) Emergency Services Council Annual Preparedness Event (ESCAPE), Ruidoso, NM, 17-19 May 2015.

2014 Instructor, Land Navigation Training, New Mexico Search and Rescue (NMSAR), San Acacia, NM, Mission #14-00-02, 8-9 November 2014.

2013 Instructor, Land Navigation with Map, Compass, and GPS Training for New Mexico Mounted Search and Rescue (NMMSAR), Hopewell Lake, NM, 16-17 August 2014.

2014 Co-Organizer / Co-Instructor (with ESRI and NAPSG), MapSAR Training, New Mexico Search and Rescue (NMSAR), Las Cruces, NM, 17-19 January 2014.

2014 President, New Mexico Academy of Science (NMAS).

2013 President-Elect, New Mexico Academy of Science (NMAS).

2013 Instructor, Land Navigation with Map, Compass, and GPS Training for New Mexico Mounted Search and Rescue (NMMSAR), Hopewell Lake, NM, 16-17 August 2013.

2013 Instructor, Land Navigation with Map and Compass Course for Organ Mountain Technical Search and Rescue (OMTRS), Las Cruces, NM, 10 August 2013.

2013 Instructor, Land Navigation with Map, Compass, and GPS Training for New Mexico Mounted Search and Rescue (NMMSAR), Tijeras, NM, 3-4 July 2013.

2013 Instructor, Map and Compass Course, New Mexico Search and Rescue Council (NMSARC) Emergency Services Council Annual Preparedness Event (ESCAPE), Ruidoso, NM, 10 May 2013.

2012-2013 Vice President, New Mexico Academy of Science (NMAS).

2012 Instructor, Map Training for Organ Mountain Technical Search and Rescue (OMTRS), Las Cruces, NM, 6 December 2012

2012 Instructor, Navigation with Map and Compass Training for Doña Ana County Search and Rescue (DAC SAR), Las Cruces, NM, 12 May 2012

2011-Present Instructor, Map Use Training for Doña Ana County Search and Rescue (DAC SAR), Las Cruces, NM, 27 August 2011

- 2011 Invited Visitor, Summer Multicultural Access to Research Training (SMART) Program, University of Colorado, Boulder, CO, November 2011.
- 2011 Judge, NMSU Graduate Research & Arts Symposium (GRAS), Las Cruces, NM, 1 March 2011.
- 2010 Judge, NMSU Graduate Research & Arts Symposium (GRAS), Las Cruces, NM, 2 March 2010.
- 2010 Judge, New Mexico Mesa Winter Design Competition, 20 January 2010.

## **HONORS AND AWARDS**

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- 2016 Distinguished Member, Teaching Academy, New Mexico State University.
- 2016 Nominee, NMSU Provost's Award for Excellence in Academic Advising.
- 2014-2015 Participant, NMSU ADVANCE Advancing Leaders Program.
- 2012-2015 Member, Teaching Academy, New Mexico State University.
- 2013 Course Release Award, College of Arts & Sciences, New Mexico State University.
- 2011-2012 Sustaining Member, Teaching Academy, New Mexico State University.
- 2011 Ford Bartlett Award, American Society for Photogrammetry and Remote Sensing.
- 2010-2011 Sustaining Member, Teaching Academy, New Mexico State University.
- 2009 Best Poster Award, New Mexico State University Research Council Fair.
- 2008-2009 Distinguished Member, Teaching Academy, New Mexico State University.
- 2005 University of Oklahoma Outstanding Graduate Teaching Assistant Award, University of Oklahoma.
- 2005 Francis E. "Gene" Lortz Memorial Scholarship, Central Region of the American Society for Photogrammetry and Remote Sensing.
- 2004 John M. Caldwell Award for Excellence in Graduate Student Teaching, Department of Geography, University of Oklahoma.
- 2004 First Place, Student Paper Competition, Annual Meeting of the Southwestern American Association of Geographers.
- 1999-2000 Exchange Student from the Universität-Gesamthochschule Paderborn, Germany at the University of Oklahoma.

## **PROFESSIONAL AFFILIATIONS**

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- 2015-Present Quivira Coalition.
- 2013-Present National Council for Geographic Education (NCGE).
- 2012-Present New Mexico Academy of Science (NMAS).
- 2012-Present New Mexico Geographic Information Council (NMGIC).

2007-Present Ecological Society of America (ESA).  
2007-Present Society for Range Management (SRM).  
2004-Present Verband der Geographen an Deutschen Hochschulen (VGDH).  
2004-Present American Society for Photogrammetry and Remote Sensing (ASPRS).  
2001-Present Gamma Theta Upsilon (GTU), Geographical Honors Society.  
2000-Present American Association of Geographers (AAG).

## **COMPUTER SKILLS**

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Geographic Information Science and Technology: ENVI, ERDAS Imagine, ArcGIS, IDRISI, ArcGIS Online, ArcGIS Explorer Online, ArcGIS Explorer Desktop, Google Earth, FRAGSTATS, etc.

Statistics: JMP, Excel, SAS, SPSS

Programming/Scripting: Python, R

Web Design: Dreamweaver, Microsoft Expression, Weebly

Learning Management Systems: BlackBoard, Canvas, Desire2Learn, WebCT

Operating Systems: Microsoft Windows, Mac OS, UNIX/Linux

## **LANGUAGE SKILLS**

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German: reading, writing, speaking fluent

English: reading, writing, speaking fluent

French: reading, writing, speaking functional

Spanish: reading, writing, speaking functional

Italian: reading, writing, speaking basic