CURRICULUM VITAE

University *of* Idaho

NAME: **Paul Edward Gessler**   **DATE:** August 2022

RANK OR TITLE: Professor of Remote Sensing, GeoEcology, and Environmental Science

DEPARTMENT: Forest, Rangeland, and Fire Sciences, College of Natural Resources (CNR)

OFFICE LOCATION AND CAMPUS ZIP:
    College of Natural Resources Building Rm. 17C
    Moscow, Idaho   83844-1133

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DATE OF FIRST EMPLOYMENT AT UI: July 1997
DATE OF TENURE: July 2003
DATE OF PRESENT RANK OR TITLE: July 2010

EDUCATION BEYOND HIGH SCHOOL:
    Degrees:
       Ph.D., Natural Resource Management and Environmental Science (Environmental Modeling), 1996, *Australian National University*. Dissertation: Statistical Soil-Landscape Modeling for Environmental Management, Canberra, Australia
       M.Sc., Environmental Engineering (Remote Sensing), 1990, *University of Wisconsin-Madison*
       B.Sc., Natural Resources/ Soil Science, 1986, *University of Wisconsin-Madison*

EXPERIENCE:

    Research and Teaching Appointments:
       Professor, Department of Forest, Rangeland and Fire Sciences, University of Idaho, 2010-present
       Visiting Professor, School of Engineering, Curtin University, Australia, 2018.
       Associate Professor, Department of Forest Resources, University of Idaho, 2003-2009
       Assistant Professor, Department of Forest Resources, University of Idaho, 1997-2003
       Affiliate Faculty, Centro Agronomico Tropical de Investigacion y Ensenanza (CATIE), Turrialba, Costa Rica, November 2001-present
       Participating Faculty, Environmental Science Program, University of Idaho, 1998-present
       Postdoctoral Researcher, Department of Geography, University of California-Santa Barbara, 1996-97
       Senior Experimental Scientist/GIS manager, Commonwealth Scientific and Industrial Research Organization (CSIRO) – Division of Land and Water, Canberra, Australia, 1990-97
       Graduate Research Assistant, Environmental Remote Sensing Center, University of Wisconsin-Madison, 1988-90
       Graduate Teaching Assistant, Department of Soil Science, University of Wisconsin-Madison, 1989

    Academic Administrative Appointments:
       Director, Northwest Knowledge Network, Office of Research and Economic Development, 2015-2017 Present, University of Idaho, www.northwestknowledge.net
       Leader, Data Mining Team, Climate Impacts Research Consortium for Pacific Northwest, 2016-Present, NOAA funded.
       Leader, Data Management and Cyberinfrastructure Team, Regional Approaches to Climate Change for Pacific Northwest Agriculture, 2010-2017, USDA NIFA funded
       Leader, Idaho and Pacific Northwest Cyberinfrastructure Working Group – NSF EPSCOR Water Resources in a Changing Environment, NSF funded
       Director/Co-director, Geospatial Laboratory for Environmental Dynamics, College of Natural Resources, 1997-Present.
       Leader, IdahoView Consortium and representative to AmericaView, 2007-2012
       Manager, Upper Midwest Aerospace Consortium Projects, Supervise 2 Postdoctoral Researchers. 1997-2008.
       Co-director, Natural Resource Ecology & Conservation Biology Undergraduate Program

Academic Administrative Appointments (continued):

        College of Natural Resources, August 2002-2003.
Manager, NASA funded Remote Sensing Center of Excellence Inland Northwest Remote Sensing
        Laboratory for Bioregional Analysis, 1997-99.

Consulting:
        Idaho Forest Group, 2020-present
        African Predator Conservation Research Organization, 2005-2010
        AquilaVision Environmental Remote Sensing, 2003-2015
        Alberta Advanced Forest Management Institute, Remote Sensing Change Detection, 1999-2003
        USDA Forest Service Remote Sensing Change Detection Training Course, 1998
        Precision Farming for Sustainable Fruit Production, CSIRO. 1996
        Synergistic Linkages Between Economic Development and Environmental Protection in Latin America,
            U.S. Information Agency, 1996
        Predicting Tree Growth for General Regions and Specific Sites in China, Thailand and Australia,
            Australian Centre for International Agricultural Research, 1993-95
        Ecosystem Sensitivity to Acid Deposition in the Hunter Valley, Pacific Power, 1993
        Location of problem soils for national fibre optic cable routing, Telecom Australia, 1992

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:
        Remote sensing of terrestrial ecosystems & regional remote sensing
        Soil-landscape modeling and terrain analysis
        Data Science and Data Mining
        Forest soils
        Geographic Information Systems (GIS) and geospatial analysis
        Global positioning satellite systems, digital image processing
        Airborne and Satellite sensors and mapping, Photogrammetry
        Environmental monitoring
        Spatial Statistics

Courses Taught (Principal or Co-Instructor with percent responsibility indicated)**:**
        University of Idaho:
            Forestry 404: LiDAR fundamentals, 100%, 2022-present
            Environmental Science 400, 100%, 2019-2021
            Environmental Science 101, 40%, 2019-2021
            Environmental Science 501, 100%, 2019-2021
            Intro to Geospatial Analysis for Natural Resource Management (FOR 375) 100%, 2006-2016,
                2019-present, College Core Class
            Current Issues in Natural Resources graduate seminar (FOR/REM 501, 1 cr.) 2018
            Natural Resource Ecology & Conservation Biology Seminar (FOR 200, 1 cr.) 50%, 2002-2003
            Introduction to Natural Resources (FOR 204, 1 cr.) 50%, 2002-2004
            Forest Measurement Techniques (FOR 274, 1 cr.) 100%, 1998
            Air Photo Interpretation and Mapping (FOR 375, 3 cr.) 100%, 1998-2005
            Forest Soils (FOR/SOILS 455, 3 cr.) 33%, 1999
            Remote Sensing of the Environment (FOR 472, 3-4 cr.) 100%, 1998-2012
            Master's Research and Thesis (FOR 500, variable credits) 100%, 1997-present
            Adv. Photogrammetry and Digital Airborne Data Proc. (FOR 504, 2 cr.) 100%, 2005-2014
            Remote Sensing Directed Study (FOR 502, variable credits) 100%, 1997-present
            Spatial and Biophysical Modeling (FOR 572, 3 cr.) 100%, Alt. Yrs., 1999-present
            Doctoral Research and Dissertation (FOR 600, variables credits) 100%, 1997-present
                University of California-Santa Barbara:
            Soil Geomorphology and Digital Terrain Analysis (GEOG 295, 2cr.) 100% 1996-97

Students Advised:
Undergraduate:
 3 undergraduate, 2020
 2015-2019, no advising due to 100% administrative position
 5 undergraduate, 2014
 8 undergraduate, 2013
 9 undergraduate, 2012
 15 undergraduate, 2011
 15 undergraduate, 2010
 12 undergraduate, 2009, Mentored 2 senior projects
 2 undergraduate (sabbatical), 2008, Mentored 1 Senior project
 12 undergraduate, 2007, Mentored 2 Senior projects
 10 undergraduate, 2006, Mentored 4 Senior projects
 8 undergraduate, 2005, Mentored 3 Senior projects
 10 undergraduate, 2004, Mentored 4 Senior projects
 8 undergraduate, 2003
 8 undergraduate, 2002
 10 undergraduate, 2001
 10 undergraduate, 2000
 8 undergraduate, 1999
 10 undergraduate, 1998
 5 undergraduate, 1997

Graduate Students, Major Professor, **Completed**:
 Edward Flathers, Ph.D., 2022
 Konrad Hafen, Ph.D., 2021
 Erich Seamon, Ph.D. Natural Resources, 2019
 Marwa Waseem Halmy, Ph.D. Natural Resources, 2013
 Kevin White, M.S. Forest Resources, 2012
 Jeffrey Lonneker, M.S. Forest Resources, 2010
 Jan Eitel, Ph.D., Natural Resources, 2008
 Michael Falkowski, Ph.D. Natural Resources, 2008
 Chris Powell, M.S., Forest Resources, 2008
 Qu Haiyan, M.S., Forest Resources, 2007
 Steve Sesnie, Ph.D. Natural Resources/CATIE, 2007
 Jan Eitel, M.S., Forest Resources, 2005
 Russell Beck, M.S., Forest Resources, 2005
 James Dickinson, M.S., Forest Resources, 2005
 Natalya Medvedyeva, M.S., Environmental Sciences, 2005
 Michael Falkowski, M.S., Forest Resources, 2004
 Peter Gorsevski, Ph.D., Natural Resources, 2002
 Amy Pocewicz, M.S., Forest Resources, 2002
 Erdensaihkan Naidansuren, M.S. Environmental Sciences, 2002
 David Grey, M.S., Forest Resources, 2001
 Jeffrey Cronce, M.S., Forest Resources, 2000

Graduate Students, Major Professor, **In Progress**:

Graduate Committee Membership:

 Ph.D. Committees, Completed:
  Logan Wimme, 2022, Department of Forest, Rangeland, and Fire Sciences
  Tanner Varrelman, 2021, Department of Biology & Computer Science
  Abdullah Alowairdi, 2021, Department of Computer Science
  Ryan Heiderman, 2021, Department of Forest, Rangeland, and Fire Sciences
  Lauren Parker, Department of Geography, 2017

Arzhan Surazakov, Department of Geography, 2008
Ph.D. Committees, Completed:
Brian Gilbert, Department of Fish and Wildlife Resources, 2008
Eva Strand, Department of Rangeland Ecology, 2007
Mark Kimsey, Department of Forest Resources, 2006
Mariann Johnston-Garrison, Department of Forest Resources, 2003
David Roon, Department of Fish and Wildlife Resources, 2003
Greg Vert, Department of Computer Science, 2000
Ph.D. Committees, **In Progress**:
M.S. Committees, Completed Programs:
Logan Wimme, Department of Forest, Rangeland, and Fires Sciences, 2022
Mitch Valerio, Dept of Plant, Soil & Entomological Sciences, University of Idaho, 2011
Phillip Robertson, Dept. of Crop and Soil Sciences, Washington State University, 2009
Jeffrey Jewett, Dept. of Land Res. & Environ. Science, Montana State University, 2009
Robert Brown, Dept. of Plant, Soil, and Entomol. Sciences, University of Idaho, 2008
Gilbert Burkman, Department of Anthropology, University of Idaho, 2008
Douglas Burns, Department of Art and Design, University of Idaho, 2008
Zach Holden, Department of Forest Resources, University of Idaho, 2006
Andrea Kortello, Department of Fish and Wildlife Resources, University of Idaho, 2005
Aaron Roth, Department of Rangeland Ecology, University of Idaho, 2004
Allyson Young, Department of Plant, Soil, & Ent. Sciences, University of Idaho, 2004
Jack Sjostrom, M.L.A., College of Arts & Architecture, University of Idaho, 2002
Tyler Wagner, Department of Fish and Wildlife Resources, University of Idaho, 2000
Faraneh Chamran, Department of Geography, Univ. of California - Santa Barbara, 2000
Toby Rodgers, Department of Soil Science, Washington State University, 2000
Karen Kamm, Department of Forest Resources, University of Idaho, 2000
Russell Parsons, Department of Forest Resources, University of Idaho, 1999
Frank Roberts, Department of Forest Resources, University of Idaho, 1998
Trevor Watson, Dept of Fish & Wildlife Environmental Sci, University of Idaho, 2013
Eric Roberts, Dept. of Plant, Soil and Entomological Sciences, University of Idaho, 2012
Matt Sorum, Dept of Fish & Wildlife Resources, University of Idaho, 2012

Materials Developed:
Developed and maintain Geospatial Laboratory for Environmental Dynamics web pages (previously titled "Remote Sensing and GIS Laboratory", 1998-2014
Coordinated CNR Geospatial Teaching and Research complex renovations/re-design, 2006-2008

Workshops, Non-credit classes, Seminars, Invited Lectures:
Developed materials and co-taught UI Extension "Using your GPS", 5-10 workshops/year, 2004-2016
National GIS Day, UI lecture, intermittently, 2004-present
Introduction to Forest Resources, guest lecture, 2005-present
Principles of Forest Ecosystem Management (FOR 270) each semester, 1997-2002
Advanced Pedology (WSU-SOILS 551) annually, 1997-present
Landscape Ecology of Forests and Rangelands (FOR 527) annually, 1998-present
Natural Resource Ecology and Conservation Orientation (FOR 200) 1999
Rangeland Ecology Seminar (RNGE 501) 1999

SCHOLARSHIP ACCOMPLISHMENTS:

Refereed Publications (update, 3/2022); H – denotes paper contributing to H-index (42)

Seamon, E. P.E. Gessler, J.T. Abatzoglou, P.W. Mote and S.S. Lee. 2022. Random Forest Modeling of Agricultural Insurance Loss Across the Inland Northwest Pacific Region of the United States. *Environmental Data Science*. 1:1-8. http://doi.org/10.1017/

Hafen, K.C., K.W. Blasch, P.E. Gessler, R. Sando and A Rea. 2022. Precision of Headwater Stream Permanence Estimates from a Monthly Water Balance Model in the Pacific Northwest, USA. *Water* 202214, 895. http://doi.org/10.3390/w14060895

Basinski, A.J., E. Fichet-Calvet, A.R. Sjodin, T.J. Varrelman, C.H. Remien, N.C. Layman, B.H. Bird, D.J. Wolking, C. Monagin, B.M. Ghersi, P.A. Barry, M.A. Jarvis, P.E. Gessler, and S.L. Nuismer. 2020. Bridging the gap: Using reservoir ecology and human serosurveys to estimate Lassa virus incidence in West Africa. *PLOS Computational Biology*.

Hafen, K.C., K.W. Blasch, A. Rea, R. Sando, and P.E. Gessler. 2020. The Influence of Climate Variability on the Accuracy of NHD Perennial and Non-Perennial Stream Classifications. *Journal of the American Water Resources Association* 1–14. https://doi.org/10. 1111/1752-1688.12871.

Flathers, E. and P.E. Gessler. 2018. Building an Open Science Framework to Model Soil Organic Carbon. Special Issue: Predicting Soil Carbon in Agroecosystems Under Climate Change. *Journal of Environmental Quality*. DOI:10.2134/jeq2017.08.0318.

Flathers, E., J. Kenyon, and P.E. Gessler. 2017. A Service-Based Framework for the OAIS Model for Earth Science Data Management. *Earth Science Informatics*. Springer, DOI: 10.1007/s12145-017-0297-3.

Valerio, M.W., P.A. McDaniel, and P.E. Gessler. 2016. Distribution and Properties of Podzolized Soils in the Northern Rocky Mountains. *Soil Science Society of America Journal* 80 (5), 1308-1316.

Halmy, M.W., P.E. Gessler, and S.Z Heneidy. 2015. Implications of human induced changes on the distribution of important plant species in the northwestern coastal desert of Egypt. *Renewable Energy and Sustainable Development*, 1, 2:243-263

Halmy, M.W., and P.E. Gessler. 2015. The application of ensemble techniques for landcover classification in arid lands. *International Journal of Remote Sensing*. Vol. 36, No. 22:5613-5636.

Halmy, M.W., P.E. Gessler, J.A. Hicke, and B.B. Salem. 2015. Land use/cover change detection and prediction in the north-western coastal deserty of Egypt using Markov-CA. *Applied Geography* 63:101-112. **H**

Hudak, Andrew T.; Liebermann, Robert J., P. Eder, P.E.Gessler. 2013. Digital surface, terrain, and canopy height models for Priest River Experimental Forest in 2002. 1st Edition. Fort Collins, CO; U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. http://doi.org/10.2737/RDS-2013-0001

White, K.P. , M.D. Coleman, D.S. Page-Dumroese, P.E. Gessler, M. Kimsey and T. Shaw. 2012. Examining soil parent material influence over Douglas-fir stem growth response to fertilization: taking advantage of information from spatiotemporally distributed experiments. *Forest Ecology and Management. 286 (2012): 101-107.*

Tinkham, W.T., A.M.S. Smith, C. Hoffman, A.T. Hudak, M.J. Falkowski, M.E. Swanson, and P.E. Gessler. 2012. Investigating the influence of LIDAR ground surface errors on the utility of derived forest inventories. *Canadian Journal of Forest Research.* 42:413-422. **H**

Refereed Publications (cont.):

Brown, R., P. McDaniel, and P.E. Gessler. 2012. Terrain attribute modeling of volcanic ash distributions in northern Idaho. *Soil Science Society of America Journal*. 76(1): 1-9

Jewett, J., R.L. Lawrence, L. Marshall and P.E. Gessler. 2011. Spatiotemporal relationships between climate and whitebark pine mortality in the greater yellowstone ecosystem. *Forest Science*. 57(4): 320-335. **H**

Sesnie, S., B. Finegan, P.E. Gessler, S. Rajaniemi, and A. Smith. 2010. The multispectral separability of Costa Rican rain forest composition and structural types with Landsat TM imagery and support vector machines. *International Journal of Remote Sensing*. 31(11):2885-2909. **H**

Falkowski, M.J., A.T. Hudak, N.L. Crookston, P.E. Gessler, E.H. Ubeler and A.M.S. Smith. 2010. Landscape-scale parameterization of a tree-level forest growth model: A *k*-NN imputation approach incorporating LiDAR data. *Canadian Journal of Forest Research*. 40(2): 184-199. **H**

Gorsevski P.V., P.E. Gessler and P. Jankowski. 2010. Integrating a fuzzy k-means classification and a Bayesian approach for spatial prediction of landslide hazard. In Fischer MM and Getis A (eds), *Handbook of Applied Spatial Analysis*, Springer. Chpt. F-1, p. 653-680.

Eitel, J., D.S. Long, P.E. Gessler, E.R. Hunt, and D. Brown. 2009. Sensitivity of ground-based remote sensing estimates of wheat chlorophyll content to variation in soil reflectance. *Soil Science Society of America Journal*. 73(5): 1715-1723. **H**

Dickinson, J., A.Robinson, P.E. Gessler, A.M.S. Smith, and R.J. Harrod. 2009. Flatland in flames: a more simple canopy fire propagation model. *International Journal of Wildland Fire*. 18:527-535.

Falkowski, M.J., J. Evans, S. Martinuzzi, P.E. Gessler and A.T. Hudak. 2009. Characterizing forest succession with LiDAR data: an evaluation for the Inland Northwest, USA. *Remote Sensing of Environment*. 113(5):946-956. **H**

Strand, E.K., L.A. Vierling, S.C Bunting, and P.E. Gessler. 2009. Quantifying successional rates in western aspen woodlands: Current conditions, future predictions. *Forest Ecology and Management*. 257(8):1705-1715. **H**

Gorsevski, P.V. and P.E. Gessler. 2009. The design and development of a hyperspectral and multispectral airborne mapping system. *ISPRS Journal of Photogrammetry and Remote Sensing* 64:184-192.

Sesnie, S., B. Finegan, P. Gessler, Z. Ramos. 2009. Landscale-scale environmental and floristic variation in Costa Rican old-growth rain forest remnants. *Biotropica*. 41(1): 16-26. **H**

Gessler, P., R. Pike, T. Hengl, R.A. MacMillan and H.I. Reuter. 2009. The future of geomorphometry. Chapter 28 In: Hengl, T., Reuter, H.I. (eds.), *Geomorphometry: concepts, software, applications.* Developments in Soil Science, Vol. 33, 637-651. Elsevier.

Nelson, A., H.I. Reuter and P. Gessler. 2009. DEM production methods and sources. Chapter 3 In: Hengl, T., Reuter, H.I. (eds.), *Geomorphometry: concepts, software, applications*. Developments in Soil Science, Vol. 33, 65-86. Elsevier.

Reuter, H.I., T. Hengl, P. Gessler and P. Soille. 2009. Preparation of DEMs for geomorphometric analysis. Chapter 4 In: Hengl, T., Reuter, H.I. (eds.), *Geomorphometry: concepts, software, applications*. Developments in Soil Science, Vol. 33, 87-120. Elsevier. **H**

Refereed Publications (cont.):

Falkowski, M.J., A.M.S. Smith, P.E. Gessler, A.T. Hudak, L.A. Vierling, and J.S. Evans. 2008. The influence of conifer forest canopy cover on the accuracy of two individual tree measurement algorithms using LiDAR data. *Canadian Journal of Remote Sensing*. Suppl. 2, 34:338-350. **H**

Sesnie, S.E., P.E. Gessler, B. Finegan, and S. Thessler. 2008. Integrating Landsat TM and SRTM-DEM derived variables with decision trees for habitat classification and change detection in complex neotropical environments. *Remote Sensing of Environment*. Special Issue: Earth Observation for Biodiversity and Ecology. 112(5)2145-2159. **H**

Eitel, J.U.H., D.S. Long, P.E. Gessler and E.R. Hunt. 2008. Combined spectral index to improve ground-based estimates of nitrogen status in dryland wheat. *Agronomy Journal*. 100:1694-1702. **H**

Beck, R.N. and P.E. Gessler. 2008. Development of a Landsat time-series for the Inland Northwest and an application in forest status assessment. *Western Journal of Applied Forestry*. 23:1:53-60.

Eitel, J.U.H., D.S. Long, P.E. Gessler, and A.M.S.Smith. 2007. Using in-situ spectroradiometry to evalue RapidEye satellite data for prediction of wheat nitrogen status. *International Journal of Remote Sensing.* Vol. 28.(18):4183-4190. **H**

Eitel, J.U.H., P.E. Gessler, A.M.S. Smith, and R. Robberecht. 2006. Suitability of Existing NIR and Novel SWIR Spectral Indices to Remotely Detect Water Stress in *Populus spp*. *Forest Ecology and Management*. 229:170-182. **H**

Lentile, L.B., Z.A. Holden, A.M.S. Smith, M.J. Falkowski, A.T. Hudak, P. Morgan, P.E. Gessler, N. Bensen, and C.H. Key. 2006. Remote sensing techniques to assess fire and fire effects. *International Journal of Wildland Fire*. 15:319-345. **H**

Gorsevski, P.V., P.E. Gessler, J. Boll, W.J. Elliot, and R.B. Foltz. 2006. Spatially distributed process modeling of landslide hazard. *Geomorphology*. 80(3-4):178-198. **H**

Falkowski, M.J., A.M.S. Smith, A.T. Hudak, P.E. Gessler, L.A. Vierling and N.L. Crookston. 2006. Automated Estimation of Individual Conifer Tree Height and Crown Diameter via Two-dimensional Wavelet Analysis of Lidar Data. *Canadian Journal of Remote Sensing*. 32(2):153-161. **H**

Hudak, A.T., N.L. Crookston, J.S. Evans, M.J. Falkowski, A.M.S. Smith, P.E. Gessler, and P. Morgan. 2006. Regression modeling and mapping of coniferous forest basal area and tree density from discrete-return lidar and multispectral satellite data. *Canadian Journal of Remote Sensing*. 32(2):126-138. **H**

Gorsevski, P.V., P.E. Gessler, R.B. Foltz and W.J. Elliot. 2006. Spatial prediction of landslide hazard using logistic regression and ROC analysis. *Transactions in GIS*. 10(3):395-415.

Gorsevski P.V., Jankowski P., and P.E. Gessler. 2006. Heuristic approach for mapping landslide hazard integrating fuzzy logic with analytic hierarchy process. *Control and Cybernetics*. 35(1): 121-146. **H**

Williamson, T.N., P.E. Gessler, P.J. Shouse, and R.C. Graham. 2006. Pedogenesis-Terrain Links in zero-order watersheds after chaparral to grass vegetation conversion. *Soil Science Society of America Journal*. 70:2065-2074.

Refereed Publications (cont.):

Strand, E.K., A.M.S. Smith, S.C. Bunting, L.A. Vierling, D.B. Hann, and P.E. Gessler. 2006. Wavelet estimation of plant spatial patterns in multi-temporal aerial photography. *International Journal of Remote Sensing*. 27(9-10):2049-2054. **H**

Holden, Z.A., A.M.S. Smith, P. Morgan, M.G. Rollins and P.E. Gessler. 2005. Evaluation of novel thermally enhanced spectral indices for mapping fire perimeters and comparisons with fire atlas data. *International Journal of Remote Sensing,* 26(217):4801-4808. **H**

Falkowski, M.J., P.E. Gessler, P. Morgan, and A.M.S. Smith. 2005. Evaluation of the ASTER sensor for fire fuels mapping in North Idaho. *Forest Ecology and Management*. 217:129-146. **H**

Gorsevski, P.V., P. Jankowski, and P.E. Gessler. 2005. Spatial prediction of landslide hazard using fuzzy K-means and Dempster-Shafer theory. *Transactions in GIS*. 9(4): 455-474. **H**

Robinson, A.P., A.L. Pocewicz, and P.E. Gessler. 2004. A cautionary note on scaling variables that appear only in products in ordinary least squares. *Forest Biometry, Modeling and Information Systems* 1:83-90.

Pocewicz, A., P.E. Gessler, and A.P. Robinson, 2004. The relationship between effective plant area index and Landsat spectral response across elevation, solar insolation, and spatial scales, in a northern Idaho forest. *Canadian Journal of Forest Research* 34:465-480. **H**

Gorsevski, P.V., P.E. Gessler, and P. Jankowski, 2003. Integrating a Fuzzy k-means classification and a Bayesian approach for spatial prediction of landslide hazard*. Journal of Geographical Systems* 5:223-251. **H**

Chamran, F., P.E. Gessler, and O.A. Chadwick, 2002. Spatially Explicit Treatment of Soil-Water Dynamics along a Semiarid Catena. *Soil Science Society of America Journal.* 66:1571-1583*.* **H**

Vert, G., M. Stock, P. Jankowski, and P.E. Gessler. 2002. An architecture for the management of GIS datasets. *Transactions in GIS*. 6(3):259-275.

Gessler, P.E., O.A. Chadwick, F. Chamron, K. Holmes, and L. Althouse. 2000. Modeling soil-landscape and ecosystem properties using terrain attributes. *Soil Science Society of America Journal* 64:2046-2056. **H**

N.J. McKenzie, P.E. Gessler, P.J. Ryan, and D.A. O'Connell. 2000. The role of terrain analysis in soil mapping. In *Terrain Analysis: Principles and Applications*. J.P. Wilson and J.C. Gallant (Eds.). Chapter 10. John Wiley and Sons Ltd. New York. **H**

Cook, S.E., R.J. Corner, G.J. Grealish, P.E. Gessler, and C.J. Chartres. 1996. A rule based system to map soil properties. *Soil Science Society of America Journal*. 60:1983-1900. **H**

Gessler, P.E., I.D. Moore, N.J. McKenzie, and P.J. Ryan. 1995. Soil-landscape modeling and spatial prediction of soil attributes. Special issue: Integrating GIS and Environmental Modeling. *International Journal of Geographical Information Systems*, Volume 9(4):421-432. **H**

McSweeney, K., P.E. Gessler, B. Slater, D. Hammer, J. Bell, and G.W. Petersen. 1994. Towards a new framework for modeling the soil-landscape continuum. Chapter 8 In *Factors of soil formation: a fiftieth anniversary retrospective.* SSSA Special Pub. 33. p.127-145. **H**

Peer Reviewed Publications:

Hutchinson, M.F., and P.E. Gessler. 1994. Splines - more than just a smooth interpolator. Proceedings Pedometrics - 92: Developments in spatial statistics for soil science. September 1-3, 1992. Wageningen, Netherlands. *Geoderma* 62(1-3):45-67. **H**

Gallant, J.C., I.D. Moore, M.F. Hutchinson ,and P. Gessler. 1994. Estimating fractal dimension of profiles:a comparison of methods. *Mathematical Geology*. Vol. 26(4):455-481. **H**

Moore, I.D., P.E. Gessler, G.A. Neilsen, and G.A. Petersen. 1993. Soil attribute prediction using terrain analysis. *Soil Science Society of America Journal*. 57:443-452. **H**

Moore, I.D., P.E. Gessler, G.A. Neilsen, and G.A. Petersen. 1993. Terrain analysis for soil-specific crop management. *Chapter 3 In Soil specific crop management: a workshop on research and development issues*. Minneapolis, Minnesota. April 14-16, 1992. p. 27-55. **H**

Bolstad, P.V., P. Gessler, and T.M. Lillesand. 1990. Positional uncertainty in manually digitized map data. *International Journal of Geographical Information Systems* Vol. 4(4):399-412. **H**

Halmy, M.W., P.E. Gessler, J. Hicke, and S.Z. Heneidy. 2013. Implications of human induced changes on the distribution of important plant species in the northwestern coastal desert of Egypt. Conference on Global Climate Change, Biodiversity and Sustainability: Challenges and Opportunities. April 15-18, 2013. Alexandria, Egypt. Arab Academy for Science, Technology & Maritime Transport.

Gorsevski, P.V.**,** Gessler P.E., Boll J., 2004. GIS application of distributed modeling for predicting potential non-point sources of water pollution for watershed management. *International Conference on Water Observation and Information Systems for Decision Support*: Ohrid, Republic of Macedonia 25-29 May, 2004.

Gessler, P.E. 2004. Quantitative soil-landscape modeling for understanding soil-landscape function. *International Conference on Water Observation and Information Systems for Decision Support*. Ohrid, Republic of Macedonia 25-29 May, 2004.

Gorsevski, P.V.**,** Gessler P.E., Jankowski P. 2004. "Spatial prediction of landslide hazard using fuzzy k-means and Bayes Theorem" chapter in W. Widacki, A. Bytnerowicz, and A. Riebau (eds.), 2004, *A Message From the Tatra: Geographical Information Systems and Remote Sensing in Mountain Environmental Research*, Jagiellonian University Press: Krakow, Poland, pp 159-172.

Gessler, P.E., F. Chamran, and O.A. Chadwick. 2000. "Measurement, monitoring and modeling spatially distributed ecological processes in soil landscapes*." 4th International Conference on Integrating GIS and Environmental Modeling (GIS/EM4): Problems, Prospects and Research Needs.* Banff, Alberta, Canada, September 2-8, 2000. CD-ROM.

Gorsevski, P.V., P.E. Gessler, and R.B. Foltz. 2000. "Spatial prediction of landslide hazard using logistic regression and GIS." *4th International Conference on Integrating GIS and Environmental Modeling (GIS/EM4): Problems, Prospects and Research Needs*. Banff, Alberta, Canada, September 2-8, 2000. CD-ROM.

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Gessler, P.E., J. Sjostrom, and S. Long. 2002. Inland Northwest Infomart for Natural Resource Applications. . Raytheon Synergy III Capital Hill Exposition. Washington, DC. June 2002, http://www.its.uidaho.edu/ remotesensing/Raytheon/Raytheon_index.htm

Gessler P.E., P.V. Gorsevski, A. Pocewicz, S. Sesnie, A. Smith, A. Covert, and E. Naidansuren, 2002. Strategic research for inventorying, monitoring and modeling our managed and natural ecosystems. Raytheon Synergy III Capital Hill Exposition. Washington, DC. June 2002, http://www.its.uidaho.edu/ remotesensing/Projects/Strategic_Research2002/Lab%20Poster.pdf

Poster and Oral Papers Presented at Scholarly Meetings (cont.):

Gessler, P.E., F. Chamran, and O.A. Chadwick. 2001. Measurement, monitoring, and modeling spatially distributed ecological processes in soil landscapes. Invited talk. Western Soil Science Society meetings. Moscow, Idaho. June 2001.

Sjostrom J., Gorsevski P.V., Gessler P.E., Pocewicz A., Covert A., Saikhan E., Cronce J., & Rutledge C.E., 2001. Strategic research for inventorying, monitoring and modeling our managed and natural ecosystems. Intermountain GIS Users' Conference 2001. Boise Idaho. April 2001.

Remote Sensing & GIS Research Unit. 2001. Strategic research for inventory, monitoring, and modeling managed and natural ecosystems. Online poster: Also presented at UMAC annual meeting Grand Forks, ND, and Raytheon Synergy annual meeting, Landover, Maryland. www.its.uidaho.edu/remotesensing/rs_lab/rslab.htm.

Hruska, R., R.A. Avila, P.E. Gessler and H.L. Osborne. 1999. A new vegetation and land cover classification for the University of Idaho Experimental Forest using hyperspectral imagery. Poster paper. Society for American Foresters Annual Meetings. Portland, Oregon. September 1999.

Strand, E.K., P.E. Gessler, and S.C. Bunting. 1999. Analysis of structural stages in a western juniper woodland /sagebrush steppe mosaic using remote sensing techniques. Poster paper. Ecological Society for America Annual Meetings. Spokane, Washington. August 1999.

Gorsevski, P., and P.E. Gessler. 1999. Spatial prediction of landslide hazard using statistical modeling and GIS. Poster paper. International Timber Harvesting Conference. Corvallis, Oregon, March 1999.

Chamran, F, O.A. Chadwick, and P.E. Gessler. 1998. Modeling of Soil-water in Complex Terrain, October 18-22, 1998: Soil Science Society of America, 90th Annual Meeting. Baltimore, Maryland.

Gessler, P.E., and O.A. Chadwick. 1997. Statistical soil-landscape modeling: interpreting pattern and process for understanding landscape function. Pedometrics Symposium on Spatial Analysis. Madison, Wisconsin, August 18-20, 1997.

Gessler, P.E., L. Oyler, J. Schimel, and O.A. Chadwick. 1997. Integrated ecosystem monitoring to elucidate landscape function and biogeochemical cycling. Oral paper. AGU Chapman Conference. Application of GIS, remote sensing, geostatistics and solute transport modeling to the assessment of non-point source pollutants in the vadose zone. Riverside, California, October 19-24, 1997.

Gessler, P.E. 1994. Application of a soil-landscape model building strategy. Oral Paper- Soil Science Society of America Annual Meetings, Seattle, Washington. November 13-18, 1994. Agronomy Abstracts, p.326.

Gessler, P.E., N.J. McKenzie, D. McKain and L.J. Ashton. 1994. The Wagga Wagga study: a dataset for soil-landscape modeling research. Poster Paper - Soil Science Society of America Annual Meetings, Seattle, Washington. November 13-18, 1994. Agronomy Abstracts, p.326.

Gessler, P.E., and N.J. McKenzie. 1994. Quantitative soil-landscape modeling. GIS and Hydrologic Modeling Workshop, Brisbane, Queensland.

Gessler, P.E., N.J. McKenzie, M.F. Hutchinson, and I.D. Moore. 1993. Soil-landscape modeling in southeastern Australia: Scale relationships. Poster paper - Workshop on Scale Issues in Hydrological/Environmental Modeling. Robertson, NSW, Australia. November 30-December 2, 1993. p.15.

Poster and Oral Papers Presented at Scholarly Meetings (cont.):

Gessler, P.E., N.J. McKenzie, I.D. Moore, and L.J. Gregory. 1993. Quantitative soil-landscape models for soil mapping. Poster paper - Soil Science Society of America Annual Meetings, Cincinnati, Ohio. November 7-12, 1993. Agronomy Abstracts, p. 297.

Gessler, P.E., I.D. Moore, and N.J. McKenzie. 1993. Geomorphometric analysis for modeling soil-landscape patterns in southeastern Australia. Oral Paper - Third International Geomorphology Conference. Hamilton, Ontario. August 23-29, 1993. Programme with Abstracts, p.145.

Gessler, P.E., I.D. Moore, and J. Williams. 1992. The digital atlas of Australian soils and new methods for quantifying the spatial characteristics of soil properties. Oral Paper - National Soils Conference. April 19-23, 1992, Adelaide, Australia. p.54.

Geeves, G., B.W. Murphy, P.E. Gessler, G. Bowman, and H.P. Cresswell. 1992. Prediction of saturated hydraulic conductivity using profile morphology for soils in the southeastern wheatbelt. Poster Paper National Soils Conference. April 19-23, 1992, Adelaide, Australia. p. 39.

McSweeney, K., P.E. Gessler, D. Hammer, J. Bell, and G.W. Petersen. 1991. Modeling factors of soil development using GIS and allied technologies. Oral Paper - Soil Science Society of America Annual Meetings, Denver, Colorado. October 27-November 1, 1991. Agronomy Abstracts, p. 316.

Gessler, P.E., K. McSweeney, and R.W. Kiefer. 1990. Geostatistical modeling of soil-landscape variability within a GIS framework. Oral Paper - Soil Science Society of American Annual Meetings, San Antonio, Texas. October 21-26, 1990. Agronomy Abstracts, p. 292.

Gessler, P.E., K. McSweeney, and R.W. Kiefer. 1989. Analysis of soil-vegetation patterns in southwestern Wisconsin using remote sensing and a geographical information system. Oral Paper - Soil Science Society of America Annual Meetings, Las Vegas, Nevada. Agronomy Abstracts, p. 263.

McSweeney, K., P.E. Gessler, S. Ventura, and R.W. Kiefer. 1989. Soil landscape analysis using a geographical information system and a digital elevation model for southwestern Wisconsin. Oral Paper - Soil Science Society of America Annual Meetings, Las Vegas, Nevada. Agronomy Abstracts, p. 268.

Other Professional Activities/Presentations:

IdahoView: Leader of the First Annual (and subsequent) Meetings, Boise, 2007; 2008; 2009, 2010, 2011

Digital Soil Mapping, Northern USDA NRCS Planning Meeting, 2006

The Future of Geomorphometry, European Commission meeting on Geormorphometry Valencia, Spain, 2006

Integration of Geospatial Tools for Supporting African Predator Conservation Research, Oppenheimer Okavango Research Center, Maun, Botswana, 2005.

Fire on Moscow Mountain, Research Group Presentation at UI Fire Symposium, 2004.

National GIS Day Keynote Talk, UI Geography Department, 2004.

NIPF Symposium, Spokane, WA, RS/GIS tools talk, 2004

Private Forest Landowners Conference, RS/GIS tools talk, 2003.

Raytheon/Battelle Joint Workshop on Needs and Capabilities for Remote Sensing, Seattle, October 2001.

Centro Agronomico Tropical de Investigacion y Ensenanza (CATIE) on strategic research initiatives at the CNR Remote Sensing & GIS Research Unit, July 2001.

Inland Northwest Informart for Forestry Applications, Raytheon Corporation, Landover, Maryland, June 2001, 2002, 2003, 2004.

Soil-landscape Modeling Research, Invited Talk, University of California-Riverside, June 2001.

Proposed Center for Biogeochemical Systems Research, SBOE Site Visit, May 2001.

Forest Productivity Initiative, Joint meetings between College of Natural Resources and Forest Industry representatives, January 2001.

NASA Program Manager Visit to UI. "Collaborative research opportunities and UI critical mass." August 2000.

College of Forestry, Wildlife and Range Sciences Advisory Board, "Analyzing airborne hyperspectral, ground-based foliar spectra, and foliar nutrient data for forest productivity research." November 1999.

Upper Midwest Aerospace Consortium High School Teachers Symposium, "Uses of remote sensing and GIS for sustainable forest management." Moscow, Idaho, October 1999.

Upper Midwest Aerospace Consortium annual workshop, "Remote sensing products to support sustainable forest ecosystem management." Grand Forks, North Dakota, annual, 1998-present.

Intermountain Forest Tree Nutrition Cooperative, annual, 1998-2000.

Idaho Symposium in Honor of NFS Director Rita Colwell, "Tools and techniques for multi-scale analyses of environmental patterns and processes." December 1998.

Inland Northwest Growth and Yield Cooperative, "Remote sensing products to support sustainable forest ecosystem management." April 1998.

Precision farming workshop on use of new technologies, "Use of digital terrain analysis for fine-scale characterization of soil productivity patterns." Bozeman, Montana, February 1998.

Grants and Contracts Awarded: (Total: ~$52 million)

P.A. Barry, S. Nuismer, P.E. Gessler et al. 2018-2022. Prediction of Spillover Potential and Interventional En Masse Animal Vaccination to Prevent Emerging Pathogen Threats in Current and Future Zones of US Military Operation. Defense Advanced Research Projects Agency (DARPA). $9,370,000.

P.E. Gessler, L. Sheneman. 2016-2017. Developing Dataflow Efficiencies for the Acquisition, Processing and Distribution of Unmanned Autonomous Systems (UAS) Products. Idaho Department of Commerce Global Entrepreneurial Mission. $161,524.

P. Mote, D. Lach, J.A Abatzoglou, P.E. Gessler et al. 2015-2020. Climate Impacts Research Consortium 2.0: Tranforming Data Into Usable Knowledge for Adapting to Climate Related Hazards in the Pacific Northwest. NOAA Regional Integrated Sciences Assessments (RISA). $3,690,003.

P.E. Gessler, L. Sheneman. 2015-2017. Coastal Biodiversity Risk Analysis Tool. Joint EPA and USGS funding. $10,000.

J. Abatzoglou, P.E. Gessler, L. Sheneman, D. Batchelet. 10/2015-9/2017. Collaborative Visualization of Projected Climatic Conditions and Related Risks for the Northwest US. USDA Pacific Northwest Climate Hub. $83,000

P.E. Gessler, D. Ewart, L. Sheneman, J. Foster. 2013-2105. Enhancing network capabilities to foster Big Data science at the University of Idaho. NSF Campus Cyberinfrastructure. $450,000

Coleman, M., M. Rust, G. Newcombe, P.E. Gessler, S. Cook. 2010-2016. University of Idaho – College of Natural Resources Proposal for Participation in the NSF Center for Advanced Forestry Systems. $410,000.

Kavanagh, K., T. Link, H. Hess, A. Smith, B. Newingham, P.E. Gessler. 2010-2015. MRI: Development of a Smart 3-D Wireless Sensor Network for Terrain-Climate Research in Remote Mountainous Environments. NSF. $536,326.

S. Eigenbrode, P.E. Gessler, J. Johnson-Maynard et al. 2011-2017. Regional Approaches to Climate Change for Pacific Northwest Agriculture. National Institude of Food and Agriculture, USDA. $20 million.

P.V. McDaniel, P.E. Gessler. 2010-2012. Development of soil-landscape models of spodosol distribution for the northern rocky mountains. Natural Resource Conservation Service, USDA. $80,000.

P.E. Gessler (Lead PI), R. Rupp, B.Godfrey, D. Henshaw, S. Eigenbrode. 2009-2010. Cyberinfrastructure assessment to support a collaborative LTAP between the University of Idaho, Washington State University and Oregon State University. USDA Pacific Northwest STEEP program. $39,000.

V. Walden, G. Bohach et al., P.E. Gessler (Co-I). 2009-2012. Cyberinfrastructure development for the western consortium of Idaho, Nevada and New Mexico (EPSCOR). National Science Foundation. $2 million. Cyberinfrastructure Working Group Leader.

P.E. Gessler (Lead PI), P. Zager, M. Scott. 2008-2010. Statewide habitat change assessment and monitoring. Idaho Dept. of Fish & Game. $50,000.

D. Dumroese, M. Coleman, P.E. Gessler (Co-I), M. Kimsey et al. 2008-2011. Developing geospatial site type classification systems for forest nutrition management. American Forest & Paper Association: Agenda 2020. $150,000

V. Walden and G. Bohach, P.E. Gessler (Co-I). 2008-2013. EPSCOR Idaho RII VI: Infrastructure for water resources research in a changing climate. NSF. $15 million. Cyberinfrastructure Working Group Lead.

Grants and Contracts Awarded: (continued)

P.E. Gessler (Lead PI), N. Glenn and D. Wilkins. 2007-Indefinite. IdahoView: a proposal for Full Membership to the AmericaView Consortium by the State of Idaho. USDI – Geological Survey. $81,000/year.

D. Long, P.E. Gessler (Co PI) 2006-2009. Cropping systems and precision land management in dryland Pacific Northwest. Collaboration with the USDA ARS Columbia Plateau Conservation Research Center. $90,000.

P.E. Gessler (Lead PI), 2003-2006. Implementing an airborne multispectral and hyperspectral dual use system. Cooperative Ecosystems Studies Unit. $700,000.

G. Seielstad et al., P.E.Gessler (Subcontract PI) 1998-2007. PARC Continuation: Remote Sensing Products to Support Sustainable Forest Ecosystem Management. Principal author Idaho subcontract from NASA/ University of North Dakota, $568,482.

P.E. Gessler (Lead PI), 2002-05. Inland Northwest infomart for natural resource applications. Raytheon Corporation/NASA. $401,679 (plus $72,000 of satellite imagery and computer hardware purchased for the University of Idaho by Raytheon Corp.)

D. Long, P.E. Gessler et al. (Co-I), 2001-05. Modeling and visualizing remote sensing and terrain data for research and education in precision agriculture. Subcontract from Montana State University, USDA-CREES funding. $89,663.

P.E. Gessler (Subcontract PI). 2001. Forest productivity monitoring and mapping project: UMAC/Raytheon Team Express project. Subcontract from University of North Dakota. $20,981 (plus $4,000 of satellite imagery purchased by Raytheon on behalf of UI).

P.E. Gessler, (PI) 2001-05. New vegetation mapping methods: Salmon-Challis National Forest. $48,168.

Robinson, A.R., P.E. Gessler (Co-PI), and J.D. Marshall. 2000-04. Parameterizing physiological forest growth models in Idaho. College of Natural Resources McIntyre-Stennis grant. $121,000.

G. Seielstad et al., P.E. Gessler (Subcontract PI) 1999-2003. Northern Great Plains: Regional Earth Science Applications Center. Sole author of Idaho subcontract, NASA/ subcontract from University of North Dakota. $75,000.

G. Servheen, P. Morgan, B. Weddell, P.E. Gessler (Co-I) and P.A. McDaniel. 1999-2000. Reference Conditions for Wetland Restoration in the Palouse Prairie: Historical Occurrence, Extent, Plant Diversity and Soil Deposition Rates. Environmental Protection Agency Wetland Grants Program, $172,462.

P.E. Gessler (PI) 1998. Supporting Framework for Collaborative Proposals to Utilize Upcoming NASA Vegetation Canopy LIDAR satellite acquisitions, University of Idaho Seed Grant Program, 1998, $6,000.

P. Jankowski and P.E. Gessler (Co-PI). 1998. University of Idaho Proposal for Admittance to the University Consortium for Geographic Information Science.

P.E. Gessler, (Subcontract PI) (G. Seielstad et al.) 1998-2001. A Public Access Resource Center (PARC): Empowering the General Public to Use EOSDIS. Sole author of Idaho subcontract from NASA/University of North Dakota. $46,510.

P.E. Gessler, (Subcontract PI) 1998. Enhancing Ag-link With Soil Survey Data. Subcontract from Montana State University/ Natural Resources Conservation Service. $5,000.

Grants and Contracts Awarded (continued):

P.E. Gessler (Lead PI), L. Fox, J.M. Scott, P. Morgan, and J. Ulliman. 1997-98. Inland Northwest Remote Sensing Laboratory for Bioregional Analysis. NASA Remote Sensing Centers of Excellence Program, 1997-98, $218,000.

O.A. Chadwick and P.E. Gessler (Co-I). 1997. Modeling of soil carbon distribution on the Sedgwick Reserve. California Space Grant Consortium. $24,000.

P.E. Gessler (PI) 1996. Evaluation of Radar Data for Terrain Analysis to Support New Environmental Mapping Methods. Australia-US Bilateral Science and Technology Program, Australian Department of Industry, Science and Technology. $9,024.

P.E. Gessler (PI) 1991-95. Developing Spatial Analysis Methods for Land Resource Assessment, Principal author, Murray-Darling Basin Commission -Natural Resource Management Strategy Project M218. $536,000.

N.J. McKenzie, P.J. Ryan, and P.E. Gessler (Co-I), 1995-98. Ecologically Sustainable Forest Management, Australian Forest Research and Development Corporation. $75,000.

P.E. Gessler (PI), 1993. Scientific Exchange between Taiwan and Australia. Australian Academy of Science. Travel and accomodation costs funded.

P.E. Gessler (PI), 1987-91. Dunn County Soil Erosion Control Plan Implementation. Wisconsin Department of Agriculture, Trade and Consumer Protection. $197,000.

Honors and Awards:
Outstanding Faculty Award, Outstanding Efforts in Assisting Students with Disabilities. Student Disability Services, Office of the Dean of Students, University of Idaho, 2001
Commonwealth Ph.D. Scholarship, Australian National University, 1992-96
Vicki Lee Hirsh Foundation Scholarship, University of Wisconsin, 1984-85
Badger Crops and Soils Scholarship, University of Wisconsin, 1983-84
Dean's Honor List - 5 semesters as undergraduate, University of Wisconsin

SERVICE:
Major Committee Assignments:
Idaho Geological Mapping Advisory Committee
Search Committee Member, Computer Science Data Architect Professor. 2011
NIFA USDA Cyber-infrastructure Advisory Committee Chair, 2010-present
NSF EPSCOR Cyber-infrastructure Advisory Committee Chair, 2008-present
Search Committee Member, Director of Intermountain Forest Tree Nutrition Cooperative & Assistant/Associate Professor, 2007
Search Committee Member, Biometrics and Quant. Modeling of Ecosystems Assistant Professor, 2005-7
University of Idaho Graduate Council, 2004-2008
Search Committee Co-chair, Spatial Ecology Assistant Professor, 2004
Geospatial data and technology committee, NSF IGERT program. 2003-present
Search Committee Member, Forest Watershed/Hydrology Assistant Professor, 2000-01
Search Committee Member, GIS Manager, College of Natural Resources, 1999-2000
Search Committee Member, Forest Mensurationist Assistant Professor, 1998
UI Representative, University Consortium for Geographic Information Science, 1998-2001
RS/GIS Committee, College of Natural Resources, 1999-present.
Natural Resources Ecology and Conservation Biology Petitions Committee, 1999-present
Natural Resources Ecology and Conservation Biology Internship Committee, 1999-present
5 Year Review Tenure and Promotions Committee, 1998

Professional and Scholarly Organizations:

Soil Science Society of America
International Society of Soil Science
American Society for Photogrammetry and Remote Sensing (ASPRS)
Faculty advisor, University of Idaho Student Chapter (ASPRS)
Ecological Society of America
Society of American Foresters
American Geophysical Union
NSF Ecosystems Proposals, Faculty Early Career Development Proposals, Referee, 1999-present
NASA Earth Science Proposal Referee, 1999-present

Journal manuscript reviews:
Environmental Modeling
Agriculture, Ecosystems & Environment
Transaction in GIS
Soil Science Society of America Journal
Geoderma
Photogrammetric Engineering & Remote Sensing Journal
Remote Sensing of Environment
Canadian Journal of Remote Sensing
International Journal of Geographical Information Systems

Outreach Service:

Northwest Knowledge Network Advisory Group
Geospatial Extension Advisory Group
GPS workshops, UI Natural Resources Extension
Wildland-Urban Interface Conference Annual presentation on Geospatial Tools
National Advisory Panel, Implementing Digital Soil Mapping Technologies, NRCS
Supervisor, GIS & Remote Sensing Short Courses, UI - Post Falls Research Park, 2000-2006
Collaborator/Advisor, Salmon-Challis National Forest, New vegetation classifications, 2000-2005
Advisor, Clearwater Elk Management Initiative, 2000-01
Research Review Panel, USDA Forest Service
Idaho Representative, Regional Climate Change Assessment Team, 2000
Alberta Advanced Forest Management Institute, Ecosystem Management Course Instructor, 1999-present
Remotely Sensed Change Detection Training Course, USDA-Forest Service, Salt Lake City, 1999
National Advisory Committee, Soil Survey Innovations, USDA - Natural Resources Conservation Service, 1998-99

Community Service:

Advisory Board, African Predator Conservation Research Organization, 2005-present
Advisory Board, DigitShare, 2001-present
Member of the Board of Directors, Conservation Imaging, 1999-2001
Member of the Board, Palouse Youth Hockey Association
Coach: youth hockey, high school hockey, on and off, 1997-2011
Moscow High School Varsity Hockey Coach, 2009-2011