Nancy F. Glenn
Research Associate Professor, Department of Geosciences, Idaho State University-Boise, 322 E. Front St., Suite 240, Boise, ID 83702, USA, 208-345-1994, glennanc@isu.edu

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EDUCATION

Ph.D. Geo-Engineering, 2000, University of Nevada, Reno,
M.S. Geotechnical/Civil Engineering, 1996, University of California, Berkeley
B.S. Geological Engineering, 1994, University of Nevada, Reno

PROFESSIONAL EXPERIENCE

Research Associate Professor, Department of Geosciences, Idaho State University (ISU), August 2005 – present; **Co-chair** of Department of Geosciences, August 2008-present;
Research Assistant Professor, Department of Geosciences, ISU, July 2000 - 2005
Research Assistant, Department of Geological Sciences, University of Nevada, Reno, 1997 - 2000
Teaching Assistant, Department of Geological Sciences, University of Nevada, Reno, 1997-1998
Staff Geotechnical Engineer, GeoEngineers Inc., Redmond, WA, 1996-1997
Teaching Assistant, Civil Engineering Department, University of California, Berkeley, 1995
Research Assistant, Civil Engineering Department, University of Nevada, Reno, 1994
Teaching Assistant, Department of Geological Sciences, State University of New York, Buffalo, 1994

AWARDS

Idaho Business Review 2007 Accomplished Under 40
Idaho State University Outstanding Researcher 2007-2008

I. RESEARCH

1. PUBLICATIONS

Peer-Reviewed (*student author)

Homan, J.*, Luce, C., McNamara, J., Glenn, N.F., Development of Remote Sensing-based Dimensionless Snowmelt Depletion Curves for Improved Hydrologic Modeling, in review, submitted to *Hydrological Processes*

Wang, C., Glenn, N.F., Hardegree, S., Foliage biomass estimation of Douglas-fir stands using airborne LiDAR data, in review, submitted to *Remote Sensing of Environment*

Wang, C., and Glenn, N.F., 2009, Estimation of fire severity using pre- and post-fire LiDAR data in sagebrush steppe rangelands, *International Journal of Wildland Fire*, 18, 848–856.

Mitchell, J.*, and Glenn, N.F., 2009, Matched filtering subpixel abundance estimates in mixture-tuned matched filtering classifications of leafy spurge (Euphorbia esula L.), *International Journal of Remote Sensing*, 30(23).

Norton, J.*, Glenn, N., Germino, M., Weber, K., Seefeldt, S., 2009, Relative suitability of indices derived from Landsat ETM+ and SPOT 5 for detecting fire severity in sagebrush steppe, *International Journal of Applied Earth Observation and Geoinformation*, 11(5): 360-367, 10.1016/j.jag.2009.06.005.

Sankey, J.*, Germino, M., Glenn, N., 2009, Aeolian sediment transport following wildfire in sagebrush steppe, *Journal of Arid Environments*, 73 (10): 912–919, DOI: 10.1016/j.jaridenv.2009.03.016.

Sankey, J.*, Germino, M., Glenn, N., 2009, Relationships of post-fire aeolian transport to soil and atmospheric moisture, *Aeolian Research*, 1(1-2): 75-85, DOI: 10.1016/j.aeolia.2009.07.002.

Singh, N.*, and Glenn, N.F., 2009, Multitemporal spectral analysis for cheatgrass (Bromus tectorum) classification, *International Journal of Remote Sensing*, 30 (13): 3441 - 3462.

Lifton, Z.*, Thackray, G., Van Kirk, R., Glenn, N., 2009, Influence of rock strength on the valley morphometry of Big Creek, central Idaho, USA, *Geomorphology*, 111: 173–181.

Wang, C., and Glenn, N.F., 2009, Integrating LiDAR intensity and elevation data for terrain characterization in a forested area, *IEEE Geoscience and Remote Sensing Letters*, 6 (3), 463-466.

Mitchell, J.*, and Glenn, N.F., 2009, Leafy Spurge (Euphorbia esula L.) Classification Performance Using Hyperspectral and Multispectral Sensors, *Rangeland Ecology & Management*, 62.

Wang, C., and Glenn, N.F., 2008, A linear regression method for tree canopy height estimation using airborne LiDAR data, *Canadian Journal of Remote Sensing*, 34:217-227.

Moore, C.*, Hoffman, G., Glenn, N., 2007, Quantifying Basalt Rock Outcrops in NRCS Soil Map Units Using Landsat-5 Data, *Soil Survey Horizons*, 48: 59–62.

Khan, S., Glenn, N.F., 2006. New strike-slip faults and litho-units mapped in Chitral (N. Pakistan) using field and ASTER data yield regionally significant results, *International Journal of Remote Sensing*, 27 (20): 4495–4512.

Mundt, J.*, Glenn, N., Weber, K., Pettingill, J., 2006. Determining target detection limits and accuracy delineation using an incremental technique. *Remote Sensing of Environment*, 105, 34-40.

Streutker, D. and Glenn, N., 2006. LiDAR measurement of sagebrush steppe vegetation heights. *Remote Sensing of Environment*, 102, 135-145.

Mundt, J.*, Streutker, D., Glenn, N., 2006. Mapping sagebrush distribution via fusion of hyperspectral and LiDAR classifications. *Photogrammetric Engineering and Remote Sensing*, 72 (1): 47-54.

Glenn, N.F., Streutker, D., Chadwick, J., Thackray, G., Dorsch, S., 2006. Analysis of LiDAR-derived topographic information for characterizing and differentiating landslide morphology and activity. Geomorphology, 73 (1-2) 131-148.

Mundt, J.*, Glenn, N., Weber, K., Prather, T., Lass, L., Pettingill, J., 2005. Discrimination of hoary cress and determination of its detection limits via hyperspectral image processing and accuracy assessment techniques. *Remote Sensing of Environment*, 96: 509–517.

Glenn, N.F., Mundt, J.T.*, Weber, K.T., Prather, T.S., Lass, L.W., Pettingill, J., 2005. Hyperspectral data processing for repeat detection of small infestations of leafy spurge. *Remote Sensing of Environment*, 95: 399–412.

Chadwick, J., Glenn, N., Thackray, G., Dorsch, S., 2005. Landslide Surveillance: New Tools for an Old Problem. *EOS*, 86(11): 109, 114.

Chadwick, J., Dorsch, S., Glenn, N., Thackray, G., Shilling K., 2005. Application of Multi-Temporal High Resolution Imagery and GPS in a Study of the Motion of a Canyon Rim Landslide. *ISPRS Journal of Photogrammetry and Remote Sensing*, 59(4): 212-221.

Lass. L., Prather, T., Glenn, N., Weber, K., Mundt, J., Pettingill, J., 2005. Early Detection of Spotted Knapweed and Babysbreath with a Hyperspectral Sensor, *Weed Science*, 53:242–251.

Glenn, N.F., J.R. Carr, 2004. Establishing a relationship between soil moisture and RADARSAT-1 SAR data obtained over the Great Basin, Nevada, U.S.A. *Canadian Journal of Remote Sensing* 30/2, pp.1-6.

Glenn, N. F., J.R. Carr, 2004. The effects of soil moisture on SAR delineation of geomorphic surfaces in the Great Basin, Nevada, U.S.A. *Journal of Arid Environments* 56/4, pp. 643-657.

Glenn, N. F., J.R. Carr, 2003. The use of geostatistics in relating soil moisture to RADARSAT-1 SAR data obtained over the Great Basin, Nevada, U.S.A. *Computers and Geosciences*, 29/5, pp.577-586.

Singhroy, V., Glenn, N.F., Ohkura, Hiroshi, 2002. Landslides: Earth Observation for Landslide Assessment (pp. 94-113) *in The use of earth observing satellites for hazard support: Assessments and Scenarios, Final Report of the CEOS Disaster Management Support Group.* Published for CEOS by NOAA, January, 2002, 214 p.

Conference/Report Proceedings

Mundt, J., Streutker, D., **Glenn, N.F.**, 2007. Partial unmixing of hyperspectral imagery: Theory and methods. ASPRS Conference Proceedings Paper, May, 2007

Glenn, N., Mundt, J., Streutker, D., 2004. Experimental remote sensing of vegetation on INEEL (5 p.), *in 2003 INEEL Annual Site Environmental Report.* Published by Stoller and INEEL Environmental Surveillance, Education and Research Program.

2. GRANTS
PIs are listed in order (PI, Co-PI, etc)

BCAL Watershed Modeling LiDAR, September 2009-August 2012, $340,650, **Glenn, N.**, Ames, D., NOAA

Collaborative Research: Cyberinfrastructure Development for the Western Consortium of Idaho, Nevada, and New Mexico, September 2009-August 2012, $2M to Idaho from NSF EPSCoR; (**Glenn, N**., Ames, D., for Idaho State University's portion ($387,200 over 3 years))

Upgrade of Computing Equipment in the Digital Mapping Laboratory, Idaho State University, $75,000, August 2009-2010, Crosby, B., Ames, D., **Glenn, N**., Welhan, J., NSF

Water Resources in a Changing Climate, September 2008-August 2012, $36,000 (Glenn's portion of a statewide award), Baxter, C., Crosby, B., Germino, M., Ames, D., Finney, B., Thackray, G, **Glenn, N.**, NSF EPSCoR

UAV and hyperspectral remote sensing, April 2009-September 2009, $11,000, **Glenn, N.**, Idaho National Laboratory

Fusion of remotely sensed data sources for modeling eolian soil transport, October 2007 – September 2010, $360,515, **Glenn, N**., Germino, M., Department of Defense

Hyperspectral and LiDAR landscape modeling, October 2006-September 2010, $462,120, **Glenn, N.**, NOAA

Evaluating Invasive Species and Habitat Quality in The Owyhee Uplands With Remote Sensing, September 2007-August 2011, $27,000, **Glenn, N.**, BLM

*Quantifying Basalt Rock Outcrops in NRCS Soil Map Units Using Landsat-5 Data***,** September 2007-December 2008, $23,500, **Glenn, N.**, USDA NRCS

Rangeland Fire and Erosion, August 2008-July 2010, $159,000, Germino, M., **Glenn, N.**, BLM

Development of a Geospatial Outreach Program – Boise Center Aerospace Laboratory, October 2005 – September 2010, $475,900, **Glenn, N.**, Ames, D., NOAA.

Implementation of Remote Sensing Techniques for Invasive Species Management, August 2006-September 2009, $43,459, **Glenn, N**., USDA NRCS.

Eolian transport and remote sensing, INRA SSGP Doctoral Fellow Program, Fall 2006-Spring 2008 ($25,000/year), Funding for Joel Sankey, PhD. In Engineering and Applied Sciences, **Glenn, N.**

Hyperspectral remote sensing, INRA SSGP Doctoral Fellow Program, Fall 2007-Spring 2009 ($25,000/year), Funding for Jessica Mitchell, PhD. In Engineering and Applied Sciences, **Glenn, N.**

Creation of a New Learning Community by Integration of Breeze, WebCT, Distance Learning and Smart Screens at Idaho State University, July 1, 2006-June 30, 2007, **Glenn, N.**, Ames, D., Hughes, S., $59,556, Idaho SBOE.

Pacific NorthWest Regional Collaboratory (PNWRC) Rangeland Monitoring FY06, October 2006 – August 2007, $53,800, Glenn, N., Battelle Memorial Institute, Pacific Northwest Division.

Boise Center Aerospace Laboratory, October 2004 – September 2007, $494,739, **Glenn, N.,** Ames, D., Hughes, S., Weber, K., NOAA.

Landscape Data Fusion and Assessment: Improved Feature Extraction using Multivariate Stacking, Year 3, July 2005 – June 2006, $53,427, **Glenn, N.**, Battelle Memorial Institute, Pacific Northwest Division.

Detection, Prediction, Impact, and Management of Invasive Plants Using GIS, June 2002- May 2005, $1,500,000, Weber, K., **Glenn, N.F.**, Germino, M., NASA Goddard, NAG5-2301.

Development and Implementation of Remote Sensing Techniques to Monitor Invasive Plant Species in the State of Idaho, October 2001 – March 2005, $801,695, Pettingill, J., **Glenn, N.F.** (ISU PI), Weber, K., Prather, T., Lass, L., NASA Stennis, NAG13-02029 (ISU's portion is $193,036).

Synthetic Aperture Radar Analysis of Multi-scale Geologic and Environmental Processes in Idaho and the Intermountain West, August 2001-July 2004, $575,000, Thackray, G.D., Hughes, S.S., **Glenn, N.F.**, and Rodgers D.W., NASA EPSCoR, NCC5-577. Two year extension, August 2004 – July 2006, with additional $377,445.

Landscape Data Fusion and Assessment: Improved Feature Extraction using Multivariate Stacking, Year 2, May 2004 – May 2005, $49,252, House, E., **Glenn, N.F.**, Windholz, T., Weber, K., Battelle Memorial Institute, Pacific Northwest Division.

NativeView Connections, March 2004 – February 2005, $25,000, **Glenn, N**., Hughes, S., Idaho Space Grant Consortium, from NASA Workforce Development Program.

Selenium Information System Project (SISP), July 2004 – September 2005, $68,537, Weber, K., Windholz, T., **Glenn, N.**, Bechtel BWXT ID LLC.

Student Outreach and Training for Long-term Environmental Studies in Remote Sensing with INEEL, December 2001-September 2004, $105,646, Inouye, R., **Glenn, N.F.**, Bechtel BWXT ID LLC

Landscape Data Fusion and Assessment: Improved Feature Extraction using Multivariate Stacking, March 2003 – March 2004, $102,224, House, E., **Glenn, N.F.**, Windholz, T., Weber, K., Battelle Memorial Institute, Pacific Northwest Division

Wildfire Effects on Rangeland Ecosystems and Livestock Grazing in Idaho, May 2001- March 2004, $500,000, Weber, K., **Glenn, N.F.**, Holmer, R., Link, P., Minshall, W., Maschner, H., and Peterson, C., NASA Goddard, NAG5-10982

GeoSTAC, August 2002 – July 2003, $30,174, Hughes, S., **Glenn, N.**, NASA EPSCoR, Idaho Space Grant Consortium

Postdoctoral Researcher in Remote Sensing at Idaho State University, August 2002 – July 2003, $15,000, **Glenn, N.**, NASA EPSCoR, Idaho Space Grant Consortium

Application of the SEBAL methodology for estimating evapotranspiration and consumptive use of water through remote sensing (student and outreach support), May 2002 – December 2003, $37,340, **Glenn, N.F.,** Hughes, S.S., Idaho Department of Water Resources

Development of a selenium information system, December 2001 – September 2002, $20,000, **Glenn, N.F.** and Co-PI: Weber, K.T., Bechtel BWXT ID LLC

Modeling landslide hazards and sediment transport after wildfires with remote sensing: Yellowjacket Creek drainage, Lemhi County, Idaho, June 2001 – February 2002, $10,000, **Glenn, N.F.**, NASA Idaho Space Grant Consortium

The use of remote sensing in modeling landslides and soil erosion after wildfires in an area of the Salmon-Challis National Forest, Lemhi County, Idaho, August 2001 – February 2002, $6,534, Wheeler, D., **Glenn, N.F.**, Graduate Student Fellowship, NASA Idaho Space Grant Consortium

3. Abstracts/Presentations

National

Glenn, N., Mannel, S., Ehinger, S., Moore, C., 2009, Using 3D visual tools with LiDAR for environmental outreach, AGU, abstract submitted

Sankey, J., Glenn, N., Germino, M., Hoover, A., Gironelli, A., 2009, Relationships of aeolian surface change with Lidar-derived landscape surface roughness, AGU, abstract submitted

Mitchell, J., Glenn, N., 2009, LiDAR canopy height and shape measurements in a sagebrush-steppe ecosystem, AGU, abstract submitted

Mitchell, J., Glenn, N., 2009, LiDAR canopy height measurements in a sagebrush-steppe ecosystem, Silvalaser, TX Oct, abstract submitted

Hoover A, Germino MJ, Glenn N, Sankey J, 2009, Relationship between post-fire soil surface morphology and vegetation recovery in the sagebrush steppe. Ecological Society of America Annual Meeting, Alburquerque NM Aug 2-6.

Glenn, N. **(Invited Talk)**, 2008, LiDAR derived surface morphology and change detection, *Studying Earth Surface Processes with High-Resolution Topographic Data Workshop*, Boulder, CO

Sankey, J., Germino, M, Glenn, N., 2008, *Hydroclimatological Controls on Wind Erosion of Soil Following Wildfire*, Abstract, 2008 Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, Houston, TX

Sankey, J., Germino, M., Glenn, N., 2008, *The Increased Potential for Aeolian Transport Following Wildfire*, Abstract, 2008 Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, Houston, TX

Wang, C., Glenn, N.F., Hardegree, S., Boehm, A., 2008, Biomass estimation of Douglas-fir stands using airborne LiDAR data, Eos Trans. AGU, Fall Meet. Suppl., Abstract B41C-401.

Glenn, N., Sankey, J., Germino, M., 2007, *Post-fire Wind Erosion in a Semiarid Shrub Steppe*, Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract NG41C-0670

Homan, J., McNamara, J., Glenn, N., Luce, C., 2007, Large-Scale Snow Water Equivalent Estimation using Snowmelt Depletion Curves and MODIS-based Fractional Snow Covered Area, *Eos Trans. AGU, 88*(52), Fall Meet. Suppl., Abstract C21B-0453

Wang, C., Glenn, N., Streutker, D., 2007, Ground-return Identification of Airborne LiDAR Data in a Forested Area Using Gaussian-fitting Models *Eos Trans. AGU, 88*(52), Fall Meet. Suppl., Abstract B41E-04

Aly, M., Hughes, S., Rodgers, D., Glenn, N., Thackray, G., 2007, Crustal Deformation in the Eastern Snake River Plain and Yellowstone Plateau Observed by SAR Interferometry *Eos Trans. AGU, 88*(52), Fall Meet. Suppl., Abstract G51C-0623

Sankey, J., Glenn, N Germino, M., 2007, Post-fire wind erosion in semiarid shrub steppe: observations from field and remotely sensed data, Geological Society of America Abstracts with Programs, Vol. 39, No. 6, p. 426

Rodgers, D., Aly, M., Hughes, S., Glenn, N., Thackray, G., 2007, Recent tectono-volcanic activity in the eastern snake river plain and Yellowstone inferred from SAR interferometry, Geological Society of America Abstracts with Programs, Vol. 39, No. 6, p. 292

Sankey, J., Germino, M., Glenn, N., 2007, Initial Results From Monitoring Wind Erosion in a Burned Semiarid Rangeland Environment, The International Annual Meetings of the American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA), Nov 4-8, New Orleans, LA.

Mitchell, J., and Glenn, N., 2007, Remote sensing of leafy spurge (*Euphorbia esula* L.), spectral and spatial detection limits, ISRSE Conference, June 2007, San Juan, Costa Rica.

Streutker, D., Glenn, N., May 2007. Change Detection Using Laser Altimetry. ASPRS Annual Meeting, Tampa, FL.

Streutker, D., Mundt, J., Glenn, N., May 2007. Partial Unmixing of Hyperspectral Imagery: Theory and Methods. ASPRS Annual Meeting, Tampa, FL.

Streutker, D., Glenn, N., Thackray, G., 2006, Use of a Slope-Based Surface Matching Technique to Detect Landslide Movement in LiDAR Data, abstract submitted to AGU, December 2006

Glenn, N., Mundt, J., Weber, K., Pettingill, J., Mitchell, J., 2006. Development and Implementation of Remote Sensing Techniques to Monitor Invasive Plant Species in the State of Idaho, poster presentation, 2006 Joint Workshop on NASA Biodiversity, Terrestrial Ecology, and Related Applied Sciences, August, 2006, University of Maryland.

Glenn, N., Mundt, J., Streutker, D., May 2006. In-stream Assessment of Channel Geometry, Morphology, and Bed Form Using Imaging Spectrometer Data. ASPRS Annual Meeting, Reno, NV, 2006.

Glenn, N., Streutker, D., Thackray, G., Chadwick, J., May 2006. Analysis of LiDAR Data for Characterizing and Differentiating Landslide Morphology and Motion. ASPRS Annual Meeting, Reno, NV, 2006.

Streutker, D Glenn, N., May 2006. Surface Multifractality in Laser Altimetry Data: A Modified Prism Approach. ASPRS Annual Meeting, Reno, NV, 2006.

Norton, J., Glenn, N., Germino, M., Weber, K., 2006, The Use of Remote Sensing Imagery to Determine Wildland Fire Severity in Semiarid Sagebrush-Steppe Rangeland Ecosystems, ASPRS 2006 Annual Conference, Reno, NV, May 2006

Norton, J., Glenn, N., Weber, K., 2006, The Use of Remote Sensing Imagery to Determine Wildland Fire Severity in Semiarid Sagebrush-Steppe Rangeland Ecosystems, USDA Forest Service 11th Biennial Remote Sensing Applications Conference, Salt Lake City, UT, April 2006

Norton, J., Glenn, N., Weber, K., Seefeldt, S., 2006, The Use of Remote Sensing Imagery to Determine Wildland Fire Severity in Semiarid Sagebrush-Steppe Rangeland Ecosystems, Society of Range Management, Vancouver, BC, February 2006

Streutker, D., Mundt, J., Glenn, N., 2005, Remote Characterization of Gravel Bars in Big Creek, Idaho, AGU, December 2005.

Lifton, Z., Thackray, G., Glenn, N., Link, P., 2005, Bedrock strength controls on the valley morphometry of Big Creek, Idaho and Valley Counties, Central Idaho, GSA, Salt Lake City, October, 2005, Abstracts with Programs Vol. 37, No. 7.

Chadwick, J., Mundt, J., Glenn, N., McCurry, M., Farrand, W., 2005, Spectral differentiation of altered basaltic lava flows using AVIRIS at Craters of the Moon National Monument, Idaho, JPL AVIRIS Workshop Proceedings, Pasadena, CA, May 2005.

Glenn, N. (**Invited Talk**), 2005, Analysis of LiDAR-derived topographic information for characterizing and differentiating landslide morphology and activity, Colorado School of Mines Heiland Lecture Series, Golden, Colorado, March 2005.

Glenn, N., Mundt, J 2005, Repeat Hyperspectral Data Analysis for Invasive Plant Detection, ASPRS 2005 Annual Conference, March 2005, Baltimore, MD

Mundt, J., Streutker, D., Glenn, N., 2005, LiDAR and Hyperspectral Data Fusion for Rangeland Environments, ASPRS 2005 Annual Conference, March 2005, Baltimore, MD

Streutker, D., Glenn, N., 2005, Using LiDAR to Detect Vegetation Heights in a Rangeland Environment, ASPRS 2005 Annual Conference, March 2005, Baltimore, MD

Singh, N., Glenn, N., Windholz, T., 2005, Development of Multitemporal Data Analysis for Extracting Information from Medium-Resolution Imagery: An Application for Cheatgrass Detection (*Bromis tectorum*), ASPRS 2005 Annual Conference, March 2005, Baltimore, MD

Singh, N., Welhan, J., Glenn, N., 2004, Comparison Between Remote Sensing Classification and Stochastic Simulation Techniques for Predicting Areas of Weed Invasion, abstract submitted for GSA Annual Meeting, Abstracts with Program, Denver, CO, November, 2004, Paper 53-6.

Streutker, D., Glenn, N. (attend), 2004, Surface Fractal Characterization of Topography and Landcover Using Airborne Laser Swath Mapping, abstract, AGU Fall Meeting, December 2004

Glenn, N., Khan, S., 2004, Mapping Geology and Structure in Hyper-Rugged Terrain Using ASTER Remote Sensing Data: A Case Study From Northern Pakistan, abstract, submitted for AGU Fall Meeting, December 2004

Glenn, N., (**Invited Talk**) and Pettingill, J., 2004, NASA Remote Sensing of Invasive Weeds Project, Presentation, 12th North America Weed Management Association Annual Conference, Rapid City, SD, September, 2004

Cherry, S., Glenn, N., Windholz, T., Petrie, G., Steinmaus, K., Tagestad, J., Downs, J., **(invited)** 2004, Remote Sensing for Improved Environmental Decision Making: PNWRC Land Resources Project, Presentation, 84th American Meteorological Society Annual Meeting, Seattle, WA,

January, 2004

Glenn, N., Thackray, G., Chadwick, J., Dorsch, S., and Shilling, K., 2003, A LiDAR perspective of the Salmon Falls Landslide in southern Idaho, Presentation, AEG Annual Conference, Vail, CO, September, 2003

Glenn, N., Wheeler, D., 2003, Remote Sensing and GIS Applications and Limitations for the Detection and Prediction of Geomorphic Effects after Wildfires, Presentation, AEG Annual Conference, Vail, CO, September, 2003

Chadwick, J., Thackray, G., Dorsch, S., Sklar, J., Glenn, N. (attended), 2003, GPS Monitoring of Motion of the Salmon Falls Landslide, South-central Idaho, Presentation and Proceedings (paper), 30th International Symposium on Remote Sensing of Environment, Honolulu, HI, November 2003

Dorsch, S., Chadwick, J., Thackray, G., Glenn, N. (attended), Shilling, K., Anderson, K., 2003, Quickbird-Aerial Photography Image Comparison to Quantify the Geomorphic Evolution of a Landslide Complex in South-central Idaho Presentation and Proceedings (paper), 30th International Symposium on Remote Sensing of Environment, Honolulu, HI, November 2003

Glenn, N., Thackray, G., Chadwick, J., Dorsch, S., Shilling, K., 2003, A LiDAR Perspective of the Salmon Falls Landslide in Southern Idaho Presentation, Presentation and Proceedings (abstract), 30th International Symposium on Remote Sensing of Environment, Honolulu, HI, November 2003

Streutker, D., Glenn, N., 2003, Detection and Characterization of Rangeland Vegetation Using Airborne Laser Swath Mapping, Poster and Proceedings, AGU Fall Meeting, December 2003

Pelot, P., Khan, S., Glenn, N., 2003, Application of remote sensing for mapping areas affected by wildfires and monitoring vegetation change in southeast Idaho, Presented at Geological Society of America, November 3, 2003, published in GSA Abstracts with Programs Vol. 35, No. 6, September 2003

Mundt, J., and Glenn, N., 2003, Remote Sensing of Invasive Plants in Southeastern Idaho, Presentation and Proceedings, ASPRS Annual Conference, Anchorage, AK, May, 2003.

Mundt, J., and Glenn, N., 2003, Hyperspectral processing flow (Mixed Tune Match Filtering) for isolating invasive species, Poster Presentation, EPA Conference, Las Vegas, March 12 – 14, 2003.

Hughes, S., Glenn, N., Weber, K., 2003, Cooperative Workforce Training and Research Programs GeoSTAC at Idaho State University, Presentation, Annual NASA EPSCoR Conference, Washington, D.C., 2003.

Thackray, G., Chadwick, J., Glenn, N., Hughes, S., Rodgers, D., 2003, Remote Sensing Analysis of Multi-Scale Geologic and Environmental Processes in Idaho and the Intermountain West, Poster, Annual NASA EPSCoR Conference, Washington, D.C., 2003.

Wheeler, D., and Glenn, N., 2002, The Use of Remote Sensing Imagery for Evaluation of Post-Wildfire Susceptibility to Landslide and Sediment Transport in the Salmon-Challis National Forest, Lemhi County, Idaho, USA, Pecora 15 Remote Sensing Symposium, Denver, CO, November 2002

Wheeler, D., Glenn, N., Link, P., Thackray, G., 2002, Integration of remote sensing and field data for assessing landslide hazards after wildfires in central Idaho, GSA Annual Meeting, Denver, CO, October 2002

Glenn, N. and Wheeler, D., 2001, The role of remote sensing in predicting landslides and sediment transport after wildfires, Idaho, USA, Presentation and Proceedings, 2001, XXVI General Assembly of the European Geophysical Society, Nice, France, April 2001

Wheeler, D and Glenn, Nancy F., 2001, The use of remote sensing to evaluate landslides and soil erosion after wildfires, Association of Engineering Geologists Annual Meeting, St. Louis, MO, October 2001

Glenn, N., 2000, Synthetic Aperture Radar Applications: Soil Moisture and Geomorphology, Presentation and Proceedings, AEG, GRA Joint Annual Meeting, San Jose, CA, September, 2000.

Regional

Glenn, N. (**Invited Talk**), 2008, Lasers in the Sage, Rangeland Ecology & Management Tri-State Short Course, April 2008, Boise, ID

Glenn, N. (**Invited Talk**), 2008, Introduction & Application of Remote Sensing for Surveying, Idaho Society of Professional Land Surveyors Annual Conference, February 2008, Pocatello, ID

Moore, C., Glenn, N., 2007, Quantifying Basalt Rock Outcrops in NRCS Soil Map Units Using Landsat-5 Data, INRA-BSU Environmental Sensing Symposium, Boise, ID.

Mitchell, J., Glenn, N., October 2007. Matched Filter Abundance Estimates in Mixture Tuned Matched Filtered Classifications of Leafy Spurge. INRA-BSU Environmental Sensing Symposium, Boise, ID. **Student Poster Award** (2^{nd} Place).

Sankey, J., Germino, M., Glenn, N., October 2007. Initial Results from Monitoring Post-wildfire Wind Erosion with Field-based Sensors. INRA-BSU Environmental Sensing Symposium, Boise, ID.

Streutker, D., Glenn, N., Norton, J., October 2007. Change Detection with Lidar Data. INRA-BSU Environmental Sensing Symposium, Boise, ID.

Mitchell, J., Glenn, N., October 2007. Implementation of Remote Sensing Techniques for Invasive Species Management. INRA-BSU Environmental Sensing Symposium, Boise, ID.

Tibbitts, J., Theau, J., Glenn, N., Weber, K., October 2007. The use of Remote Sensing and GIS to Model Rangeland Health Characteristics. INRA-BSU Environmental Sensing Symposium, Boise, ID. **Student Poster Award (1st Place).**

Glenn, N., 2007 **(Invited Talk)**. Detection and modeling of invasive plants and their surrounding environments with hyperspectral imaging and other platforms in semiarid regions, University of Idaho, Moscow, ID, May 2007.

Glenn, N., Streutker, D., Thackray, G., Chadwick, J., May 2006. Analysis of LiDAR Data for Characterizing and Differentiating Landslide Morphology and Motion. 40th Engineering Geology and Geotechnical Engineering Symposium, Utah State University, UT, May 2006.

Glenn, N., 2006 **(Invited Talk),** LiDAR and Hyperspectral Remote Sensing for Landscape Modeling, Southwest GIS User's Group Meeting, May 2006, Nampa, ID

Glenn, N. and Streutker, D., 2006 **(Invited Talk)**, LiDAR and Hyperspectral Remote Sensing for Landscape Modeling, University of Idaho Center for Ecohydraulics Research Colloquium, March 2006, Boise, ID

Glenn, N., 2006 (**Invited Talk**), Remote Sensing of Cheatgrass in Idaho, BLM Owyhee Initiative Project Meeting, January 2006, Portland, OR

Singh, N., Glenn, N., Windholz, T., 2005, Comparison of High Resolution to Medium Resolution Satellite Imagery for Detection of Invasive Species, Northern Rockies Chapter of URISA 2005 Intermountain GIS Conference, April 2005, Pocatello, ID

Anderson, R., Glenn, N., Windholz, T., Singh, N., Cherry, S., Rope, R., Tagestad, J., Downs, J., Petrie, G., Pacific Northwest Regional Collaboratory and Remote Sensing of Cheatgrass, Poster, Northern Rockies Chapter of URISA 2005 Intermountain GIS Conference, April 2005, Pocatello, ID

Glenn, N. (**Invited Talk**), 2005, Remote Sensing for Natural Resources and Beyond, Presented to the US Fish and Wildlife Service, Boise, ID, March 2005

Glenn, N. (**Invited Talk**), 2005, Results of the NASA BAA: Development of Remote Sensing Techniques to Monitor Invasive Species in the State of Idaho, Idaho Weed Conference, Nampa, Idaho, February 2005

Glenn, N., Teasdale, J 2004, Native Connections, Idaho: Partnership with the Duck Valley Reservation: Assessment of Geospatial Training Needs, Poster, Western Regional Space Grant Annual Meeting, Houston, TX, September, 2004.

Singh, N., Glenn, N. (attended), McMahan, B., Windholz, T., 2004, Using Multitemporal Data Analysis and Geomorphology to Predict Sites of Cheatgrass Invasion, Poster, Geological Society of America, Rocky Mountain (56th Annual) and Cordilleran (100th Annual) Joint Meeting, May, 2004

Sheedy, V., Blew, R.D Jackson, M., Weber, K., and Glenn, N., 2004, Crested wheatgrass rates of spread into native sagebrush steppe in eastern Idaho, Society of Range Management, Conference Proceedings, Annual Meeting, Salt Lake City, UT, 2004

Snyder, R. and Glenn, N. (attended), 2003, GeoSTAC at Idaho State University, Presentation and Student Presentation Award Winner, Northern Rockies URISA Intermountain GIS Conference, Couer d'Alene, ID, April 2003

Wheeler, D., Glenn, N., 2003, Remote Sensing and GIS Applications and Limitations for the Detection and Prediction of Geomorphic Effects after Wildfires, Presentation, Northern Rockies URISA Intermountain GIS Conference, Couer d'Alene, ID, April 2003

Glenn, N., 2002, Remote Sensing at Idaho State University and the State of Idaho, Presentation, Nevada Space Grant Consortium Annual Meeting, November, 2002

Glenn, N. and Weber, K., 2001, Rangeland Health: Applied Geospatial Technology for Assessment and Decision Support, Pacific Northwest Regional Collaboratory Joint Meeting with Raytheon Synergy, Seattle, WA, 2001

Glenn, N., 2000, Remote Sensing at Idaho State University and the State of Idaho, Presentation, Western Regional Space Grant Consortium Annual Meeting, San Diego, CA, September 2000

Glenn, N. and Weber, K., 2000, ISU Pilot Project: Remote Sensing of Invasive Plants and Host Soils, Presentation, Joint PNNL-NASA Meeting, Pacific Northwest National Laboratory, Richland, WA, August, 2000

Local

Glenn, N., Streutker, D, (**Invited Talk**), 2005, ISU Geosciences Boise Center Aerospace Laboratory Research, University of Idaho, Center for Ecohydraulics, Colloquium, February 2006.

Glenn, N. (**Invited Talk**), 2005, Remote Sensing Spectral and Spatial Analysis for Earth Surface Processes, Boise State University, Colloquium, May 2005

Glenn, N. (**Invited Talk**), 2005, Remote Sensing for Natural Resources, Presented to the Idaho Natural Resources Committee, Boise, ID, January 2005

Thackray, G., Glenn, N., Hughes, S., Rodgers, D., Chadwick, J., 2003, Remote Sensing Analysis of Multi-Scale Geologic and Environmental Processes in Idaho and the Intermountain West, Presentation, Annual Idaho Space Grant Consortium Meeting, Moscow, ID, October 2003

Hughes, S., Glenn, N., 2003, GeoSTAC, Presentation, Annual Idaho Space Grant Consortium Meeting, Moscow, ID, October 2003

Glenn, N. and Hughes, S., 2002, GeoSTAC, Presentation, Idaho Geospatial User's Meeting, November, 2002

Glenn, N., 2002, Remote Sensing in Rangeland Research, Presentation, ISU GIS Training and Research Center GIS Public Outreach Day, November 21, 2002.

Mundt, J., and Glenn, N. (joint presentation), 2002, Long-Term Environmental Studies in Remote Sensing at the INEEL, Presentation, ISU-INEEL Partnership for Integrated Environmental Analysis Education Outreach Program Meeting, INEEL, ID, September 26, 2002.

Glenn, N., and Pettingill, J., 2001, Remote Sensing of Invasive Plants in Bonneville County, Presentation, Idaho Geospatial User's Meeting, November, 2001

Glenn, N., 2001, Applications of Remote Sensing to Engineering Geology, Presentation, Society of Mining Engineers, Soda Springs, ID, February 21, 2001

Glenn, N., 2001, Application of Remote Sensing to Engineering, Presentation, Engineering 651 Seminar, ISU College of Engineering, March 2, 2001

Glenn, N., 2001, Remote Sensing and Engineering, Presentation, Electrical and Computer Engineering Research Colloquium, University of Idaho, March 9, 2001

Glenn, N., 2000, Remote Sensing Research, Presentation, GIS Training and Research Center, Annual GIS Day, November 15, 2000

II. TEACHING

1. Classroom Instruction

Geology 409/509 Remote Sensing (offered every spring)

- Spring 2001, 13 students, Pocatello
- Fall 2001, 14 students, Pocatello
- Spring 2005, 12 students, Boise (1), Pocatello (11)
- Spring 2006, 24 students, Boise (4), Pocatello (13), Idaho Falls (7)
- Spring 2007, 24 students, Boise (5), Pocatello (10), Idaho Falls (9)
- Spring 2008, 19 students, Boise (4), Pocatello (8), Idaho Falls (7)
- Spring 2009, 26 students, Boise (8), Pocatello (17), Idaho Falls (1)

Geology 609 Advanced Image Processing

- Fall 2006, 5 students, Boise (2), Pocatello (1), Idaho Falls (2)
- Fall 2007, 2 students, Pocatello (2)
- Fall 2008, 2 students, Pocatello (1), Boise (1)

Field Camp

- Summer 2004, 7 – 21 students, 2 - 4 days
- Summer 2005, 21 students, 3 days

- Summer 2006, 21 students, 3 days
- Summer 2007, 21 students, 3 days

2. Research Experiences Offered to Students

- Spring 2002
  - Ben McMahan, M.S. Anthropology, Geol 648,1 credit, *Multitemporal stacking to simulate hyperspectral imaging*
- Fall 2002
  - Jeremy Shive, M.S. Biology, Geol 648, 1 credit, *Development of hyperspectral remote sensing techniques*
  - Tanya Johnson, B.S. Anthropology, Geol 482, 3 credits, *Remote sensing of archaeological sites in the Eastern Snake River Plain*
- Fall 2003
  - Chad Gentry, B.S. Biology, Geol 482, 1 credit, *Remote sensing*
- Spring 2006
  - Randy Lee, INL, MS GIS, Geol 648, 3 credits, *Development of spectral and spatial techniques for elevation models for hydrology*
- Fall 2006
  - Carol Moore, B.S. Geology, Geol 482, 2 credits, *Determining rock outcrops with remote sensing in Clark County for NRCS soil surveys*
- Spring 2007
  - Brian Davis, Post-baccalaureate Geotechnology Certificate, Geol 648, 2 credits, *Mapping invasive species with remote sensing*
- Spring 2007-Fall 2008
  - Carol Moore, B.S. EES, Mapping rock outcrops with remote sensing
    - This research has resulted in one publication to date, a $20,000 grant award, and an **undergraduate research award** for Carol by the Cooperative Ecosystems Studies Unit (CESU)
- Spring 2009
  - Ashley Hayes, B.S. Geology, Geol 582, 3 credits, *Remote sensing*

3. Internship Experiences Offered to Students

- Allan Anselmo, MS GIS, NOAA-Boulder with Dr. Bob Zamora, Summer 2005, *Programming for soil moisture*
- Jackie Langille, BS Geology, NOAA-Boulder with Dr. Bob Zamora, Summer 2006, *Correlation of Precipitation and Soil Water Content to Rising River Levels*
- Scott Miller, BS Geology, NOAA-Boulder with Dr. Bob Zamora, Summer 2007

4. Graduate Students

Primary advisor:

- Diane Sprague-Wheeler, May 2003, The Use of Remote Sensing Imagery for Evaluation of Post-Wildfire Susceptibility to Landslide and Erosion Hazards in the Salmon-Challis National Forest, Lemhi County, Idaho, M.S. Geology.
  - Now working as: Geologist, Soda Springs Ranger District, Caribou-Targhee National Forest

- Jacob Mundt, December 2003, Detection of leafy spurge *(Euphorbia esula)* in Swan Valley, Idaho, using hyperspectral remote sensing with limited training data, M.S. Geology.
    - Now working as: Ada County Weed and Pest, Remote Sensing and GIS Supervisor
- Nagendra Singh, May 2005, Development of a Multitemporal Data Analysis Approach for Extracting Information from Medium-Resolution Imagery: An application for cheatgrass detection (*Bromis tectorum*), M.S. Geology
    - Now working as: Oak Ridge National Lab Remote Sensing Scientist
- Charles Finley, August 2006, Field evaluation and hyperspectral imagery analysis of fire-induced water repellent soils and burn severity in Southern Idaho rangelands, M.S. GIS
    - Now working as: Hydrogeologist and GIS Scientist with Newmont Mining
- Jill Norton, December 2006, The Use of Remote Sensing Imagery to Determine Wildland Burn Severity In Semiarid Sagebrush-Steppe Rangelands, M.S. GIS
    - Now working as: GIS Scientist with Power Engineers
- Jessica Mitchell, August 2007, Spectral and spatial detection limits of leafy spurge (*Euphorbia esula* L.): Sensor Comparisons and Matched Filtered Behavior, MS GIS
    - Now working as: PhD Student
- Sara Ehinger, LiDAR tool development, MS GISci, expected May 2010
- Jacob Tibbits, Remote sensing of bareground (specific title TBD), MS GISci, expected December 2010
- Jessica Mitchell, Remote sensing and invasives (specific title to be determined), PhD INRA Fellow / Engineering and Applied Science, expected graduation 2010
- Joel Sankey, Remote sensing and wind erosion (specific title to be determined), PhD INRA Fellow / Engineering and Applied Science, expected graduation 2009

Secondary advisor/Committee Member:

- Jen Carr Merrill, August 2003, The Formation of Leaton Gulch, Grouse Peak, Pahsimeroi Mountains, Custer County, Idaho: Neoproterozoic Conglomerates and Breccias and Their Relation to the Beaverhead Impact Structure, M.S. Geology (served on thesis committee for defense only)
- Stephen Dorsch, May 2004, The Geologic Framework, Movement History and Mechanics of the Salmon Falls Landslide, Twin Falls County, Idaho, M.S. Geology, (served as Ex-Officio Committee Member)
- Ryan Baum, May 2005, Multiple stressors and landscape variations in remotely sensed vegetation indices of sagebrush-steppe over the past ca. 20 years, M.S. GIS
- Zach Lifton, August 2005, Bedrock controls on the fluvial geomorphology of Big Creek, Valley County, Idaho, M.S. Geology
- Bettie Keetch, July 2006, Using PTRA and QuarkNet Teaching Materials and Methods in the Secondary School Classroom, M.S. Natural Sciences
- Christopher Michaelis, Spring 2007, MS GIS, Application of OGC specifications to client-side GIS
- Jeyakanthan Veluppillai, Fall 2008, MS GIS, Development and application of soil and water assessment tool interfaces for MapWindow GIS application (OpenSWAT)
- Brian Marchionni, expected Fall 2009, MS GIS, Design and Development of an Extensible Open Source Geospatial Toolbox and Graphical Modeling Environment

- Amber Hoover, expected Spring 2010, MS Biology, A Comprehensive Examination of the Interactions between Aeolian Sediment Transport and Vegetation

GFR:

- Jeremy Shive, May 2004, Mapping Amphibian Habitat Distribution in the Frank Church-River of No Return Wilderness, ID Using Multiple Scales of Remotely Sensed Data, M.S. Thesis, Biology
- Cyndia Glorfield, March 2005, Emotionally Focused Therapy, M.S. Counseling, Department of Counseling
- Lisa Paternoster, April 2005, Structural Family Therapy, M.S. Counseling, Department of Counseling
- Rhonda Oppelt, April 2006, M.S. Counseling, Department of Counseling
- Nikki Kerns, April and July 2006, Cochlear Implantation and Aural Rehabilitation, Speech Language Pathology
- Camilla Pearson, July 2006, Structural Family Therapy, M.S. Counseling, Department of Counseling
- Leslie Soares, April 2007, M.S., Speech Language Pathology
- Nicole Jordan, April 2007, Mental Health Counseling, M.S. Counseling, Department of Counseling
- Chelsea D'Addabbo, April 2008, M.S., Speech Language Pathology
- Kris Kirsch, April 2008, M.S. Counseling, Department of Counseling
- Colleen Matthews, April 2009, M.S., Speech Language Pathology
- Addy Wissel, May 2011, Ph.D., Counseling

Other Universities, Committee Member:

- Joel Homan, MS Hydrology, Boise State University, Incorporating the MODIS Snow Product into Distributed Snowmelt Models, Spring 2008
- Rohan Benjankar, Ph.D., University of Idaho Ecohydraulics, Summer 2009, Quantification of reservoir operation-based losses to floodplain physical processes and impact on the floodplain vegetation at the Kootenai River, USA
- Alden Shalcross, MS Hydrology, Boise State University, LiDAR and snow (title to be determined), expected Spring 2010

Post-doctoral scientists and Research professors

- Dr. Teki Sankey, Research Assistant Professor, September 2008-present
- Dr. Cheng Wang, Post-doc, Remote Sensing, August 2007-June 2009
- Dr. David Streutker, Post-doc, Physics, April 2003-August 2006
- Dr. Mohamed Aly, Post-doc, Geology, August 2006 – July 2008
- Dr. Ahmed Said, Research Assistant Professor, Hydrology, October 2006-April 2008
- Dr. John Chadwick, Post-doc, Geology, July 2002 – July 2005

Student Awards

- Jacob Tibbits - INRA First Prize Student Poster Award, 2007 for: Tibbits, J., Theau, J., Glenn, N., Weber, K.), October 2007. The use of Remote Sensing and GIS to Model Rangeland Health Characteristics. INRA-BSU Environmental Sensing Symposium, Boise, ID.

- Jessica Mitchell - INRA Second Prize Student Poster Award, 2007 for: Mitchell, J., Glenn, N., October 2007. Matched Filter Abundance Estimates in Mixture Tuned Matched Filtered Classifications of Leafy Spurge. INRA-BSU Environmental Sensing Symposium, Boise, ID.
- Carol Moore, Undergraduate Student Researcher Award, Great Basin Cooperative Ecosystems Studies Unit, 2008 Reno, NV, CESU Annual Meeting
- Yardenia Martinez (University of Houston) - Society of Exploration Geophysics Best Student Poster Paper for Martinez, Y., Khan, S., Link, P., Glenn, N., Mapping geology and structure using multispectral and hyperspectral data and evaluating topographic correction methods: Case study, Salmon River Mountains of east-central Idaho, 2005 SEG Annual Meeting

5. Workshops & Other

May, 2001, Remote Sensing Workshop, Intermountain GIS Conference, Boise, Idaho, 2001 (taught 1 day workshop)
This workshop will include the fundamentals of remote sensing as well as provide practical examples of remote sensing applications. ArcView Image Analyst will be used to display imagery. The class will include hands-on experience with image processing, and time permitting, a field trip for ground truthing. Specific topics to be addressed include:

August 2002, Surface Energy Balance Algorithm for Land (SEBAL) Expert Training, Pocatello, August 19-23, 2002 at Idaho State University's GIS Training and Research Center (organized 5 day workshop)
The training had 17 attendees from state government (2), the federal government (1), various universities (13), and the private sector (1). The course was taught by an international team of instructors: Dr. Richard G. Allen, Dr. Wim Bastiaanssen, and Mr. Ralf Waters. Dr. Allen is research professor at the University of Idaho, Kimberly Research Center. His specialty field is evapotranspiration. Dr. Bastiaanssen is the Scientific Director of WaterWatch in Wageningen, The Netherlands. Dr. Bastiaanssen is the originator of the SEBAL model. Mr. Waters is a principal in Waters Consulting of Nelson B.C., Canada, and a specialist in fluid mechanics. The instructors were assisted by Mr. William J. Kramber, Senior Remote Sensing Analyst at the Idaho Department of Water Resources, and Mr. Masahiro Tasumi, PhD. candidate at the University of Idaho under Dr. Allen.

October, 2002, Idaho State Department of Agriculture (ISDA)
Hands on Remote Sensing, October 30, 2002, ISDA, Boise
One day workshop provided to county weed managers for continuing education credit. Includes four exercises:
Exercise 1: Data sources and image acquisitions
- Satellite versus aerial images
- How and when images are acquired

Exercise 2: Image resolutions
- Learn about and experiment with different image resolutions

Exercise 3: “False-color images”
- Learn how to develop and interpret a false-color image

Exercise 4: Remotely sensed vegetation

- Understand how vegetation is remotely sensed and compare different types of vegetation

April 14, 2003, Hyperspectral Workshop, Idaho Falls, University Place (organized 1 day workshop)

Hosted a hyperspectral remote sensing workshop in Idaho Falls on April 14, 2003. This workshop included 40 participants (from INEEL, ISU, U of I, and state and federal agencies) and a variety of speakers (from INEEL, ISU, U of I, and Oregon State University). The talks included hyperspectral processing methods (Spectral Angle Mapper, Mixed Tune Match Filter) and comparisons between spatial resolutions for applications of invasive plants, forest health, wetlands, and stream ecology. The workshop also included an afternoon hands-on session in which users gained experience in processing hyperspectral data. Two graduate students lead the afternoon workshop. Feedback from the workshop was extremely positive with requests for an additional workshop in the coming year.

March 13, 2009, ISU Boise Research Day, Panelist

1 hour panel on collecting, organizing, and analyzing data for research

III. SERVICE

1. University

- Serve on Cyberinfrastructure Working Group, NSF EPSCoR Idaho, 2009-
- Attended National EPSCoR Conference and Legislative Visits as ISU representative, February 2009-
- Member of President Vailas' kitchen cabinet advisory group, 2009-
- Joint appointment with College of Engineering, Civil Engineering Department, Idaho State University, 2008-
- Adjunct Graduate Faculty with an endorsement to chair thesis or dissertation committees, Boise State University, 2008-
- Assist with 5-library and information resources subcommittee for accreditation (contact: Randy Gaines), 2008-
- Member of VP for Research search committee, 2006 and 2007
- Affiliate Graduate Faculty, University of Idaho, 2007-
- Member, ISU-Boise Dean's Council, 2007-
- Organized booth for ISU-Boise ISU Day at the Capitol, 2007
- Presenter at ISU Office of Research "Collaborative Research" Seminar, September 27, Boise-Pocatello, 2007
- Chair, Research Subcommittee, ISU-Boise Strategic Task Force Committee, 2006-
- Member, ISU-Boise Strategic Task Force Committee, 2006-
- ISU Technical Representative, Pacific Northwest Regional Collaboratory (PNWRC), 2000-2007
- Idaho Space Grant Consortium, ISU Representative Executive Committee Member, 2001, 2008 –
- ISU GIS Oversight Committee Member, 2002 – 2008
- ISU Geotechnology Faculty Member, 2002 - present

- Developed collaborative ties for ISU presence in the Idaho Water Center (IWC), starting in 2004 and leading to ISU's research space in the IWC in November 2005
- ISU Day at the Capitol, Legislative Luncheon, 2004
- Support Clinical Lab Sciences (Department of Biology, Boise), Institute of Rural Health, Pharmacy, Public health, and CSED with poster development and printing for conferences, 2004-present
- GIS and Remote Sensing Presentations to Nursing Students, 2004-2005
- Serve on selection committee for the ISU Boise Student Excellence Award, 2005 – 2009
- Generated grants by serving as PI or Co-PI providing over $600,000 in indirects to university
- PI on several outreach and curriculum-based grants for university-wide benefit:
    - *Creation of a New Learning Community by Integration of Breeze, WebCT, Distance Learning and Smart Screens at Idaho State University*, July 1, 2006-June 30, 2007, **Glenn, N.**, Ames, D., Hughes, S., $59,556, Idaho SBOE.
    - *Development of a Geospatial Outreach Program - Boise Center Aerospace Laboratory*, October 2005 – September 2008, $475,900, **Glenn, N.**, Ames, D., NOAA.
    - *NativeView Connections*, March 2004 – February 2005, $25,000, **Glenn, N**., Hughes, S., Idaho Space Grant Consortium, from NASA Workforce Development Program.
    - *GeoSTAC*, August 2002 – July 2003, $30,174, Hughes, S., **Glenn, N.**, NASA EPSCoR, Idaho Space Grant Consortium
- GFR to multiple students and departments (see list under 'Students')

2. University-wide Research Centers

- Search committee member, Lecturer, ISU GIS TReC (2004-2005)
- Numerous outreach and education grants with ISU GIS TReC, for example:
    - *Detection, Prediction, Impact, and Management of Invasive Plants Using GIS*, June 2002- May 2005, $1,500,000, Weber, K., **Glenn, N.F.**, Germino, M., NASA Goddard, NAG5-2301.
    - *Development and Implementation of Remote Sensing Techniques to Monitor Invasive Plant Species in the State of Idaho*, October 2001 - March 2005, $801,695, Pettingill, J., **Glenn, N.F.** (ISU PI), Weber, K., Prather, T., Lass, L., NASA Stennis, NAG13-02029 (ISU's portion is $193,036).
- Outreach and education grant with the Center for Ecological Research and Education (CERE)
    - *Student Outreach and Training for Long-term Environmental Studies in Remote Sensing with INEEL*, December 2001-September 2004, $105,646, Inouye, R., **Glenn, N.F.**, Bechtel BWXT ID LLC

3. Department of Geosciences

- Department Co-Chair, 2008-present
- P&T committee for Dr. Dan Ames, 2008
- Search committees:
    - Idaho Falls Geoscience TT Teaching/Research Position (2003-2004)

    - Earth and Environmental Science TT Geoscience Position (2003-2004; 2004-2005)
    - Geospatial Analysis Non TT Teaching/Research Position (2007)
- Regularly attend weekly faculty meetings
- Active participant in department reviews and documents
- Support of Idaho Falls GIS laboratory (purchasing of software and licensing support) (2003-2004)
- Support of Pocatello Digital Mapping Laboratory Staff (Ms. Diana Boyack, 1.2 years full-time salary support over past two years), 2004-
- Grants providing indirects in which $30,000 has been recovered by the department
- Represent and establish ISU-Geosciences presence in Boise, ID, resulting in establishing the Department of Geosciences' Boise Center Aerospace Laboratory (BCAL) in November 2005
- Assisted in developing GeoSTAC (website, course design and development)

4. Community Service

- Co-Founder and member of the Board of Directors for Sage International Charter School, including co-author of $700,000 grant awarded to Sage, 2008-
- Idaho Water Center Green Team, 2008-
- Idaho Water Center GIS Day, 2008-
- Parents Association Committee, Treasure Valley YMCA, Member, September 2005-2009
- Hosted Open House for ISU BCAL at the Idaho Water Center's University of Idaho's Presidential Sustainability Symposium, October 2008
- Eurasian Water Milfoil Outreach Talk, June 2008
- Review Panel for The Nature Conservancy's Landscape Toolbox, 2008-
- Idaho Geospatial Committee, Higher Education Representative, 2003 – present
  The role of the IGC, as defined by Governor Kempthorne's Executive Order 2001-07, is to provide policy level direction and promote efficient and effective use of resources for matters related to geographic information.
- Mars Rover, TECH Challenge Volunteer (April 2003, 2004), 1 day remote sensing workshops for middle school students
- Women in GIS (WIG), Member
  This is an informal group (about 20 women) founded in and local to Boise. The mission of WIG is to provide educational opportunities for K-12 in geospatial technologies (GIS, GPS, and remote sensing). Examples of projects include education in the classroom, hosting public workshops at conferences, hosting GIS Day activities (Nov 2003, 2008), demonstrating GPS techniques to the public (May 2009).
- Weed Legislative Tour with demonstration of GPS/GIS/Remote sensing capabilities, Member of Organizing Committee, June 9 (Ada County), June 16 (Bonneville County), 2004

5. Professional

Committees

- CEOS (Committee of Earth Observation Satellites) International Landslide Hazard Disaster Working Group, Member and Co-Editor, 2001-2002

- General Assembly of the European Geophysical Society, Nice, France, April, 2001; Program NH7.05 Landslides and related phenomena: Remote sensing and monitoring of landslides, Co-chair
- American Society for Photogrammetry and Remote Sensing, Intermountain Region Spring Technical Meeting, April 12, 2001, Pocatello, Idaho, Convener;
- NASA Applications Division PP&A Disaster Management Panel, Member, 2002
- American Society for Photogrammetry and Remote Sensing, Intermountain Region Fall Technical Meeting, November 3, 2005, Boise, Idaho, Convener
- NASA Applications Division and USDA Agricultural Decision Support Systems, Remote Sensing of Invasive Plant Member, 2003
- NASA Applications Division Remote Sensing of Invasive Plant Member, 2007-
- Geological Society of America, Rocky Mountain (56th Annual) and Cordilleran (100th Annual) Joint Meeting, May, 2004; Hydrologic Science, Geomorphology, and Environmental Geoscience Session, Chair
- American Society for Photogrammetry and Remote Sensing, Intermountain Region Fall Technical Meeting, 2005, Idaho Water Center, Boise, Idaho, Co-Convener
- INRA and BSU Symposium on Environmental Sensing, October, 2007, Planning Committee and Session Chair, 2007
- University of Idaho Department of Civil Engineering, Center for Ecohydraulics Search Committee Member for Geomorphologist, 2007
- Working group member for NSF/National Center for Airborne Laser Mapping Workshop: Studying Earth Surface Processes with High-Resolution Topographic Data Workshop; developed whitepaper with colleagues from the University of Arizona, San Diego State University, and UC Davis titled "Current capabilities and community needs for software tools and educational resources for use with LiDAR high resolution topography data" for the National Research Council.
- Remote sensing review for identification of core indicators for the Bureau of Land Management (BLM), October 2008
- University of Nevada Reno, College of Science, Mackay School of Earth Sciences and Engineering, Geological Sciences & Engineering Advisory Board Member, 2009-
- Co-leader of Idaho LiDAR Consortium and State of Idaho Elevation Framework Technical Working Group, 2009-
- Member, Idaho Geological Survey Geologic Mapping Advisory Committee, 2009-
- NSF Panel Review Member, 2009

Manuscript Reviews

- Remote Sensing of Environment
- Environmental and Engineering Geoscience
- Canadian Journal of Remote Sensing
- Environmental Management
- Earth Surface Processes and Landforms
- Catena
- Photogrammetic Engineering and Remote Sensing (PE&RS)
- Geological Society of America Bulletin
- Weed Science, Weed Technology

- ISPRS Journal of Photogrammetry and Remote Sensing
- Geophysics
- Earth Science Reviews
- Geology
- Journal of Arid Environments
- Geomorphology
- International Journal of Applied Earth Observation and Geoinformation
- Sensors

Book Reviews

- Wiley: 6th Edition of Remote Sensing and Image Interpretation by Thomas M. Lillesand, Ralph W. Kiefer, and Jonathan W. Chipman
- Oxford University Press, Remote Sensing of Vegetation, by Jones & Vaughan

Proposal Reviews

- NSF Division of Ecological & Biological Cluster
- NSF Division of Earth Sciences Instrumentation & Facilities Program
- NASA Solid Earth and Natural Hazards Program
- NASA EPSCoR
- NASA Innovation in Aeronautics Instruction
- Idaho Space Grant Consortium Fellowship and Research Initiation Grants
- US Civilian Research & Development Foundation: Azerbaijan-U.S. Bilateral Grants Program and Central Asia Research Travel Grant Program
- USDA NRI Competitive Grants Program
- USDA Cooperative State Research, Education and Extension Service Small Business Innovation Research Program
- University of Missouri Research Board
- ACS Petroleum Research Fund
- Department of Defense ERDC

Professional Organizations

- Society of Women Engineers, Member, 1994-
- Tau Beta Pi, Engineering Honor Society, Member, 1994-
- Association of Engineering Geologists, Member, 1994-
- American Geophysical Union, Member, 1999-
- American Society for Photogrammetry and Remote Sensing, Member, 1999-
- ISU Professional Women, Member, 2000-2002, 2004
- Urban Regional Information Systems Association (URISA), Member
    - Vice-president, Northern Rockies Chapter, 2003-2004
    - President, Northern Rockies Chapter, 2004-2005
    - 2005 Pocatello, ID, Conference Planning Committee, 2004-2005