Philip E. Dennison   1 Jul 2019
Professor and Chair
Department of Geography   phone: 801-585-1805
University of Utah   fax: 801-581-8219
260 S Central Campus Dr, Rm 4625   e-mail: dennison@geog.utah.edu
Salt Lake City, UT 84112   https://ursa.utah.edu

I. GENERAL INFORMATION

A. Education

2003	Ph.D. in Geography, University of California Santa Barbara
1999	M.A. in Geography, University of California Santa Barbara
1997	B.S. in Geography with High Honors, Pennsylvania State University

B. Research and Teaching Interests

Remote sensing of vegetation, imaging spectroscopy, wildfire, firefighter safety, fire and climate, greenhouse gas plume detection and concentration retrieval, natural hazards, human-environment interactions

C. Professional Experience

2019-present	Chair, Department of Geography, University of Utah
2014-present	Professor, Department of Geography, University of Utah
2008-2018	Adjunct Appointment, Department of Biology, University of Utah
2009-2014	Associate Professor, Department of Geography, University of Utah
2004-2009	Assistant Professor, Department of Geography, University of Utah
2003-2004	Postdoctoral Researcher, Department of Geography, University of California Santa Barbara

D. Recent Professional Honors, Fellowships, and Awards

2018	Reviewer Excellence Award, *Remote Sensing of Environment*
2014	University of Utah Honors Professorship
2014	University of Utah College of Social and Behavioral Science Senior Research Award
2011	University of Utah Department of Geography Outstanding Mentor/Advisor Award
2010	University of Utah Department of Geography Outstanding Mentor/Advisor Award

II. RESEARCH

A. Refereed Publications 93 total. Advised student authors are underlined.

2019	Campbell, M.J., P.E. Dennison, B.W. Butler, and W.G. Page. Using crowdsourced fitness tracker data to model the relationship between slope and travel rates. *Applied Geography*, 106, 93-107.

2019   Li, D., T.J. Cova, and P.E. Dennison. Setting wildfire evacuation triggers by coupling fire and traffic simulation models: A spatiotemporal GIS approach. *Fire Technology*, 55, 617-642.

2019   Li, D., T.J. Cova, P.E. Dennison, N. Wan, Q. Nguyen, and L. Siebeneck. Why do we need a national address point database to improve wildfire public safety in the U.S.? *International Journal of Disaster Risk Reduction*, 39, 101237.

2019   Mishra, M.K., A. Gupta, J. John, B.P. Shukla, P. Dennison, S.S. Srivastava, N.K. Kaushik, A. Misra, and D. Dhar. Retrieval of atmospheric parameters and data-processing algorithms for AVIRIS-NG Indian campaign data. *Current Science*, 116, 1089-1100.

2019   Waigl, C.F., A. Prakash, M. Stuefer, D. Verbyla, and P. Dennison. Fire detection and temperature retrieval using EO-1 Hyperion data over selected Alaskan boreal forest fires. *International Journal of Applied Earth Observations and Geoinformation*, 81, 72-84.

2019   Yebra, M., G. Scortechini, A. Badi, M.E. Beget, M. Boer, R. Bradstock, E. Chuvieco, M. Danson, P. Dennison, V.R. de Dios, C.M. Di Bella, G. Forsyth, P. Frost, M. Garcia, A. Hamdi, B. He, M. Jolly, T. Kraaij, M.P. Martín, F. Mouillot, G. Newnham, R.H. Nolan, G. Pellizzaro, Y. Qi, X. Quan, D. Riaño, D. Roberts, M. Sow, and S. Ustin. Globe-LFMC, a global plant water status database for vegetation ecophysiology and wildfire applications. *Scientific Data*, in press.

2018   Campbell, M.J., P.E. Dennison, A.T. Hudak, L.M. Parham, and B.W. Butler. Quantifying understory vegetation density using small-footprint lidar. *Remote Sensing of Environment,* 215, 330-342.

2018   Lloyd, B.J., and P.E. Dennison. Evaluating the response of conventional and water harvesting farms to environmental variables using remote sensing. *Agriculture, Ecosystems, & Environment*, 262, 11-17.

2018   Meng, R., P. Dennison, F. Zhao, I. Shendryk, A. Rickert, R. Havanan, B. Cook, and S. Serbin. Mapping canopy defoliation by herbivorous insects at the individual tree level using bi-temporal airborne imaging spectroscopy and LiDAR measurements. *Remote Sensing of Environment,* 215, 170-183.

2018   Veraverbeke, S., P. Dennison, I. Gitas, G. Hulley, O. Kalashnikova, T. Katagis, L. Kuai, R. Meng, D. Roberts, and N. Stavros. Hyperspectral remote sensing of fire: state-of-the-art and future perspectives. *Remote Sensing of Environment,* 216, 105-121.

2018   Li, D., T.J. Cova, and P.E. Dennison. Setting wildfire evacuation triggers by coupling fire and traffic simulation models: A spatiotemporal GIS approach. *Fire Technology*, in press.

2018   Dai, J., D. Roberts, P. Dennison, and D. Stow. Spectral-radiometric differentiation of non-photosynthetic vegetation and soil within Landsat and Sentinel 2 wavebands. *Remote Sensing Letters*, 9, 733-742.

2018   Ayase, A.K., A.K. Thorpe, D.A. Roberts, C.C. Funk, P.E. Dennison, C. Frankenberg, A. Steffke, and A.D. Aubrey. Evaluating the effects of surface properties on methane retrievals using a synthetic Airborne Visible/Infrared Imaging Spectrometer Next Generation (AVIRIS-NG) image. *Remote Sensing of Environment*, 215, 386–397.

2018   Smith, R.M., J.C. Williamson, D.E. Pataki, J. Ehleringer, and P. Dennison. Soil carbon and nitrogen accumulation in residential lawns of the Salt Lake Valley, Utah. *Oecologia*, 187, 1107-1118.

2017   Campbell, M.J., P.E. Dennison, and B.W. Butler. A lidar-based analysis of the effects of slope, vegetation density, and ground surface roughness on travel rates for wildland firefighter escape route mapping. *International Journal of Wildland Fire*, 26, 884-895.

2017   Campbell, M.J., P.E. Dennison, and B.W. Butler. Safe separation distance score: A new metric for evaluating wildland firefighter safety zones using lidar. *International Journal of Geographical Information Science*, 31, 1448-1466.

2017   Cova, T.J., P.E. Dennison, F.A. Drews, D. Li, L.K. Siebeneck, and M.K. Lindell. Warning triggers in environmental hazards: Who should be warned to do what and when? *Risk Analysis*, 37, 601-611.

2017   Bart, R.R., C.L. Tague, and P.E. Dennison. Modeling annual grassland phenology along the Central Coast of California. *Ecosphere*, 8(7), e01875.

2017   Hansen, C.H., S.J. Burian, P.E. Dennison, and G.P. Williams. Spatiotemporal variability of lake water quality in the context of remote sensing models. *Remote Sensing*, 9(5), 409.

2017   Li, D., T.J. Cova, and P.E. Dennison. Using reverse geocoding to identify prominent wildfire evacuation trigger points. *Applied Geography*, *87*, 14-27.

2017   Schoennagel, T., J.K. Balch, H. Brenkert-Smith, P.E. Dennison, B.J. Harvey, M.A. Krawchuk, N. Miekiewicz, P. Morgan, M.A. Moritz, R. Rasker, M.G. Turner, and C. Whitlock. Adapt to more wildfire in western North American forests as climate changes. *Proceedings of the National Academy of Sciences*, 114, 4582–4590.

2017   Stoker, P., R. Rothfeder, K. Dudley, P. Dennison, and M. Buchert. Comparing the utility of LiDAR data vs. multi-spectral imagery for parcel scale water demand modeling. *Urban Water Journal*, 14, 331-335.

2017   Meng, R., J. Wu, K.L. Schwager, K. Brewster, F.R. Zhao, P.E. Dennison, B.D. Cook, T.M. Green, and S.P. Serbin. Using high spatial resolution satellite imagery to map forest burn severity across spatial scales in a Pine Barrens ecosystem. *Remote Sensing of Environment*, 191, 95-109.

2017   Thorpe, A.K., C. Frankenberg, D.R. Thompson, R.M. Duren, A.D. Aubrey, B.B. Bue, R.O. Green, K Gerilowski, T. Krings, J. Borchard, E.A. Kort, C. Sweeny, S. Conley, D.A. Roberts, and P.E. Dennison. Airborne retrievals of methane, carbon dioxide, and water vapor concentrations at high spatial resolution: application to AVIRIS-NG. *Atmospheric Measurement Techniques*, 10, 3833-3850.

2016   Qi, Y., W. Jolly, P. Dennison, and R. Kropp. Seasonal relationships between foliar moisture content, heat content, and biochemistry of lodgepole pine and sagebrush foliage. *International Journal of Wildland Fire*, 25, 574-578.

2016   Meerdink, S.K., D.A. Roberts, J.Y. King, K.L. Roth, P.E. Dennison, C.H. Aramal, and S.J. Hook. Linking seasonal foliar traits to VSWIR-TIR spectroscopy across California ecosystems. *Remote Sensing of Environment*, 186, 322-338.

2015   Coates, A.R., P.E. Dennison, D.A. Roberts, and K.L. Roth. Monitoring the impacts of severe drought on Southern California chaparral species using hyperspectral and thermal infrared imagery. *Remote Sensing,* 7, 14276-14291.

2015   Dudley, K.L., P.E. Dennison, K.L. Roth, D.A. Roberts, and A.R. Coates. A multi-temporal spectral library approach for mapping vegetation species across spatial and temporal phenological gradients. *Remote Sensing of Environment*, 167, 121-134.

2015   Meng, R. and P.E. Dennison. Spectroscopic analysis of green, desiccated and dead tamarisk canopies. *Photogrammetric Engineering & Remote Sensing*, 81, 199-207.

2015   Meng, R., P.E. Dennison, C. Huang, M. Moritz, and C. D'Antonio. Effects of fire severity and post-fire climate on short-term vegetation recovery of mixed-conifer and red fir forests in the Sierra Nevada Mountains of California. *Remote Sensing of Environment*, 171, 311-325.

2015   Realmuto, V.J., P.E. Dennison, M. Foote, M.S. Ramsey, M.J. Wooster, and R. Wright. Specifying the saturation temperature for the HyspIRI 4-μm channel. *Remote Sensing of Environment*, 167, 40-52.

2015   Roberts, D.A., P.E. Dennison, K.L. Roth, K. Dudley, and G. Hulley. Relationships between dominant plant species, fractional cover and land surface temperature in a Mediterranean ecosystem. *Remote Sensing of Environment*, 167, 152-167.

2015   Hochberg, E.J., D.A. Roberts, P.E. Dennison, and G.C. Hulley. Special issue on the Hyperspectral Infrared Imager (HyspIRI): Emerging science in terrestrial and aquatic ecology, radiation balance and hazards. *Remote Sensing of Environment*, 167, 1-5.

2015   Li, D., T.J. Cova, and P.E. Dennison. A household-level approach to staging wildfire evacuation warnings using trigger modeling. *Computers, Environment and Urban Systems*, 54, 56-67.

2015   Roth, K.L., D.A. Roberts, P.E. Dennison, M. Alonzo, S.H. Peterson, and M. Beland. Differentiating plant species within and across diverse ecosystems with imaging spectroscopy. *Remote Sensing of Environment*, 167, 135-151.

2015   Roth, K.L., D.A. Roberts, P.E. Dennison, S.H. Peterson, and M. Alonzo. The impact of spatial resolution on the classification of plant species and functional types within imaging spectrometer data. *Remote Sensing of Environment*, 171, 45-57.

2015   Thompson, D.R., B.C. Gao, R.O. Green, D.A. Roberts, P.E. Dennison, and S. Lundeen. Atmospheric correction for global mapping spectroscopy: ATREM advances for the HyspIRI preparatory campaign. *Remote Sensing of Environment*, 167, 64-77.

2014   Dennison, P.E., S.C. Brewer, J.D. Arnold, and M.A. Moritz. Large wildfire trends in the western United States, 1984-2011. *Geophysical Research Letters*, 41, 2928–2933.

2014   Dennison, P.E., G.K. Fryer, and T.J. Cova. Identification of firefighter safety zones using lidar. *Environmental Modelling & Software*, 59, 91-97.

2014   Meng, R., P.E. Dennison, C. D'Antonio, and M.A. Moritz. Remote sensing analysis of vegetation recovery following short-interval fires in southern California shrublands. *PLoS ONE*, 9(10), e110637.

2014   Qi, Y., P.E. Dennison, W.M. Jolly, R.C. Kropp, and S.C. Brewer. Spectroscopic analysis of seasonal changes in live fuel moisture content and leaf dry mass. *Remote Sensing of Environment*, 150, 198-206.

2014   Arnold, J.D., S.C. Brewer, and P.E. Dennison. Modeling climate-fire connections within the Great Basin and Upper Colorado River Basin, Western United States. *Fire Ecology*, 10, 64-75.

2014   Lugumira, J.S., D.J. Brown, P.E. Dennison, M.K. Hansen, and L.A.Vierling. Delineating dambo catenary soil-landscape units using aerial gamma-ray and terrain data: a comparison of classification approaches. *International Journal of Remote Sensing*, 35, 8272-8294.

2014   Casas, A., D. Riaño, S.L. Ustin, P. Dennison, and J. Salas. Estimation of water-related biochemical and biophysical vegetation properties using multitemporal airborne hyperspectral data and its comparison to MODIS spectral response. *Remote Sensing of Environment*, 148, 28-41.

2013   Dennison, P.E., A.K. Thorpe, E.R. Pardyjak, D.A. Roberts, Y. Qi, R.O. Green, E.S. Bradley, and C.C. Funk. High spatial resolution mapping of elevated atmospheric carbon dioxide using airborne imaging spectroscopy: Radiative transfer modeling and power plant plume detection. *Remote Sensing of Environment*, 139, 116-129.

2013   Fryer, G.K., P.E. Dennison, and T.J. Cova. Wildland firefighter entrapment avoidance: Modeling evacuation triggers. *International Journal of Wildland Fire*, 22, 883-893.

2013   Yebra, M., P.E. Dennison, E. Chuvieco, D. Riano, P. Zylstra, E.R. Hunt, F.M. Danson, Y. Qi, and S. Jurdao. A global review of remote sensing of live fuel moisture content for fire danger assessment: moving towards operational products. *Remote Sensing of Environment*, 136, 455-468.

2013   Carter, V.A., A. Brunelle, T.A. Minckley, P.E. Dennison and M.J. Power. Regionalization of fire regimes in the Central Rocky Mountains, USA. *Quaternary Research*, 80, 406-416.

2013   Thorpe, A.K., D.A. Roberts, E.S. Bradley, C.C. Funk, P.E. Dennison, and I. Leifer. High resolution mapping of methane emissions from marine and terrestrial sources using a Cluster-Tuned Matched Filter technique and imaging spectrometry. *Remote Sensing of Environment*, 134, 305-318.

2012   Matheson, D.S. and P.E. Dennison. Evaluating the effects of spatial resolution on hyperspectral fire detection and temperature retrieval. *Remote Sensing of Environment*, 124, 780-792.

2012   Meng, R., P.E. Dennison, L.R. Jamison, C. Van Riper, P. Nagler, K.R. Hultine, N. Ament, D.W. Bean, and T. Dudley. Detection of tamarisk defoliation by the northern tamarisk beetle based on multitemporal Landsat 5 Thematic Mapper imagery. *GIScience and Remote Sensing*, 49, 510-537.

2012   Qi, Y., P.E. Dennison, J. Spencer, and D. Riaño. Monitoring live fuel moisture using soil moisture and remote sensing proxies. *Fire Ecology* 8(3), 71-87.

2012   Roth, K.L., P.E. Dennison, and D.A. Roberts. Comparing endmember selection techniques for accurate mapping of plant species and land cover using imaging spectrometer data. *Remote Sensing of Environment*, 127, 139–152.

2012   Zhang, Y., G.F. Hepner, and P.E. Dennison. Delineation of phenoregions in geographically diverse regions using k-means++ clustering: A case study in the Upper Colorado River Basin. *GIScience and Remote Sensing*, 49, 163-181.

2012   Leifer, I. , B. Lehr, D. Simecek-Beatty, E. Bradley, R. Clark, P. Dennison, Y. Hu, S. Matheson, C. Jones, B. Holt, M. Reif, D. Roberts, J. Svejkovsky, G. Swayze and J. Wozencraft. State of the art satellite and airborne marine oil spill remote sensing: Application to the BP Deepwater Horizon oil spill. *Remote Sensing of Environment*, 124, 185-209.

2012   Nagler, P.L., T. Brown, K.R. Hultine, C. van Riper, D.W. Bean, P.E. Dennison, R.S. Murray, and E.P. Glenn. Regional-scale impacts of *Tamarix* leaf beetles (*Diorhabda carinulata*) on water availability of western U.S. rivers as determined by multi-scale remote sensing methods. *Remote Sensing of Environment*, 118, 227-240.

2011   Dennison, P.E., and D.S. Matheson. Comparison of fire temperature and fractional area modeled from SWIR, MIR, and TIR multispectral and SWIR hyperspectral airborne data. *Remote Sensing of Environment*, 115, 876-886.

2011   Cova, T.J., P.E. Dennison, and F.A. Drews. Modeling evacuate versus shelter-in-place decisions in wildfires. *Sustainability*, 3, 1662-1687.

2011   Larsen, J.C., P.E. Dennison, T.J. Cova, and C. Jones. Evaluating dynamic wildfire evacuation trigger buffers using the 2003 Cedar Fire. *Applied Geography*, 31, 12-19.

2011   Schaaf, A.N., P.E. Dennison, G.K. Fryer, K.L. Roth, and D.A. Roberts. Mapping plant functional types at three spatial resolutions using multiple endmember spectral mixture analysis. *GIScience and Remote Sensing*, 48, 324-344.

2011   Bradley, E.S., D.A. Roberts, P.E. Dennison, R.O. Green, M. Eastwood, S.R. Lundeen, I.B. McCubbin, and I. Leifer. Google Earth and Google Fusion Tables in support of time-critical collaboration: Mapping the Deepwater Horizon oil spill with the AVIRIS airborne spectrometer. *Earth Science Informatics*, 4, 169-179.

2011   Cao, L., T.J. Cova, P.E. Dennison, and D.M. Dearing. Using MODIS satellite imagery to predict hantavirus risk. *Global Ecology and Biogeography*, 20, 620-629.

2011   Bradley, E.S., I. Leifer, D.A. Roberts, P.E. Dennison, and L. Washburn. Detection of Marine Methane Emissions with AVIRIS Band Ratios. *Journal of Geophysical Research*, 38, L10702.

2011   Cavanaugh, K.C., D.A. Siegel, D.C. Reed, and P.E. Dennison. Environmental controls of giant kelp biomass in the Santa Barbara Channel, California. *Marine Ecology Progress Series*, 429, 1-17.

2011   Youngentob, K.N., D.A. Roberts, A.A. Held, P.E. Dennison, X. Jia, and D.B. Lindenmayer. Mapping two *Eucalyptus* subgenera using multiple endmember spectral mixture analysis and continuum-removed imaging spectrometry data. *Remote Sensing of Environment*, 115, 1115-1128.

2011   Peterson, S.H., M.A. Moritz, M.E. Morais, P.E. Dennison, and J.M. Carlson. Modeling long-term fire regimes of southern California shrublands. *International Journal of Wildland Fire*, 20, 1-16.

2010   Dennison, P.E., A.R. Brunelle, and V. A. Carter. Assessing canopy mortality during a mountain pine beetle outbreak using GeoEye-1 high spatial resolution satellite data. *Remote Sensing of Environment*, 114, 2431-2435.

2010   Anguelova, Z., D.A. Stow, J. Kaiser, P.E. Dennison, and T. Cova. Integrating fire behavior and pedestrian mobility models to assess fire danger to pedestrians within the US-Mexico border zone. *The Professional Geographer*, 62(2), 1-16.

2010   Hultine, K.R., J. Belnap, J.R. Ehleringer, C. van Riper, P.E. Dennison, M.E. Lee, P.L. Nagler, K.A. Snyder, S.M. Uselman, and J.B. West. Tamarisk biocontrol in the western United States: ecological and societal implications. *Frontiers in Ecology and the Environment*, 8, 467-474.

2010   Roberts, D.A., E.S. Bradley, R. Cheung, I Leifer, P.E. Dennison, and J. Margolis. Mapping methane emissions from a marine geological seep source using imaging spectrometry. *Remote Sensing of Environment*, 114, 592-606.

2010   Hultine, K.R., P.L. Nagler, K Morino, S.E. Bush, K.G. Burtch, P.E. Dennison, E.P. Glenn, and J.R. Ehleringer. Sap flux-scaled transpiration by tamarisk (*Tamarix* spp.), before, during and after episodic defoliation by the saltcedar leaf beetle (*Diorhabda carinulata*). *Agricultural and Forest Meteorology*, 150, 1467-1475.

2009   Dennison, P.E., and M.A. Moritz. Critical live fuel moisture in chaparral ecosystems: A threshold for fire activity and its relationship to antecedent precipitation. *International Journal of Wildland Fire*, 18, 1021-1027.

2009   Dennison, P.E. and D.A. Roberts. Daytime fire detection using airborne hyperspectral data. *Remote Sensing of Environment*, 113, 1646-1657.

2009   Dennison, P.E., P.L. Nagler, K.R. Hultine, E.P. Glenn, and J.R. Ehleringer. Remote monitoring of tamarisk defoliation and evapotranspiration following saltcedar leaf beetle attack. *Remote Sensing of Environment*, 113, 1462-1472.

2009   Hansen, M.K., D.J. Brown, P.E. Dennison, S.A. Graves, and R.S. Bricklemyer. Inductively mapping expert-derived soil-landscape units within dambo wetland catenae using multispectral and topographic data. *Geoderma*, 150, 72-84.

2008   Dennison, P.E., M.A. Moritz, and R.S. Taylor. Examining predictive models of chamise critical live fuel moisture in the Santa Monica Mountains, California. *International Journal of Wildland Fire*, 17, 18-27.

2008   Peterson, S.H., D.A. Roberts, and P.E. Dennison. Mapping live fuel moisture with MODIS data: a multiple regression approach. *Remote Sensing of Environment*, 112, 4272-4284.

2008   Clark, R.E., A.S. Hope, S. Tarantola, D. Gatelli, P.E. Dennison and M.A. Moritz. Sensitivity analysis of a fire spread model in a chaparral landscape. *Fire Ecology,* 4, 1-13.

2007   Dennison, P.E., D.A. Roberts, and S.H. Peterson. Spectral shape-based temporal compositing algorithms for MODIS surface reflectance data. *Remote Sensing of Environment,* 109, 510-522.

2007   Dennison, P.E., T.J. Cova, and M.A. Moritz. WUIVAC: A wildland urban interface evacuation trigger model applied in strategic wildfire scenarios. *Natural Hazards*, 41, 181-199.

2007   Powell, R.L., D.A. Roberts, P.E. Dennison, and L.L. Hess. Sub-pixel mapping of urban land cover using multiple endmember spectral mixture analysis: Manaus, Brazil. *Remote Sensing of Environment*, 106, 253-267.

2006   Dennison, P.E. Fire detection in imaging spectrometer data using atmospheric carbon dioxide absorption. *International Journal of Remote Sensing*, 27, 3049-3055.

2006   Dennison, P.E., K. Charoensiri, D.A. Roberts, S.H. Peterson, and R.O. Green. Wildfire temperature and land cover modeling using hyperspectral data. *Remote Sensing of Environment*, 100, 212-222.

2006   Roberts, D.A., P.E. Dennison, S. Peterson, S. Sweeney, and J. Rechel. Evaluation of AVIRIS and MODIS measures of live fuel moisture and fuel condition in a shrubland ecosystem in southern California. *Journal of Geophysical Research*, 111, G04S02.

2005   Dennison, P.E., D.A. Roberts, S.H. Peterson and J. Rechel. Use of normalized difference water index for monitoring live fuel moisture. *International Journal of Remote Sensing*, 26, 1035-1042.

2005   Cova, T.J., P.E. Dennison, T. Kim and M.A. Moritz. Setting wildfire evacuation trigger points using fire spread modeling and GIS. *Transactions in GIS*, 9, 603-617.

2004   Dennison, P.E., K.Q. Halligan and D.A. Roberts. A comparison of error metrics and constraints for multiple endmember spectral mixture analysis and spectral angle mapper. *Remote Sensing of Environment*, 93, 359-367.

2004   Herold, M., D.A. Roberts, M.E. Gardner and P.E. Dennison. Spectrometry for urban area remote sensing - Development and analysis of a spectral library from 350 to 2400 nm. *Remote Sensing of Environment*, 91, 304-319.

2003   Dennison, P.E., D.A. Roberts, S.R. Thorgusen, J.C. Regelbrugge, D. Weise and C. Lee. Modeling seasonal changes in live fuel moisture and equivalent water thickness using a cumulative water balance index. *Remote Sensing of Environment*, 88, 442-452.

2003   Dennison, P.E. and D.A. Roberts. The effects of vegetation phenology on endmember selection and species mapping in Southern California chaparral. *Remote Sensing of Environment*, 87, 295-309.

2003   Dennison, P.E. and D.A. Roberts. Endmember selection for multiple endmember spectral mixture analysis using Endmember Average RMSE. *Remote Sensing of Environment*, 87, 123-135.

2003   Roberts, D.A., P.E. Dennison, M. Gardner, Y.L. Hetzel, S.L. Ustin, and C. Lee. Evaluation of the potential of Hyperion for fire danger assessment by comparison to the Airborne Visible Infrared Imaging Spectrometer. *IEEE Transactions on Geoscience and Remote Sensing*, 41, 1297-1310.

2002   Riaño, D., E. Chuvieco, S. Ustin, R. Zomer, P. Dennison, D. Roberts, and J. Salas. Assessment of the vegetation regeneration after fire through the multitemporal analysis of AVIRIS images in the Santa Monica Mountains. *Remote Sensing of Environment*, 79, 60-71.

B. Funded Grants

2019-2021   Use of vegetation cover and topography to determine optimum escape route location and travel time for wildland firefighters, *US Forest Service*, Principal Investigator (new grant)

2018-2020   Use of vegetation cover and topography to determine optimum escape route location and travel time for wildland firefighters, *US Forest Service*, Principal Investigator

2017-2019   Improved trace gas plume detection using Indian and US AVIRIS-NG data, *National Aeronautics and Space Administration* (*NASA*), Principal Investigator

2017-2021   Dynamic impacts of environmental change and biomass harvesting on woodland ecosystems and traditional livelihoods, *National Science Foundation (NSF)* Coupled Natural Human Systems Program, Co-Principal Investigator

2016-2017   One-time investment enabling routine production of a terrestrial ecosystem product for green vegetation, non-photosynthetic vegetation, and substrate fractions for AVIRIS, *NASA*, Co-Investigator

2015-2017	Development and evaluation of a wildfire burn severity mapping tool using Google Earth Engine, *US Forest Service*, Principal Investigator
2016-2018	Exploration into use of GIS to select and rank the effectiveness of wildland firefighter safety zones, *US Forest Service*, Principal Investigator (new grant)
2014-2016	Exploration into use of GIS to select and rank the effectiveness of wildland firefighter safety zones, *US Forest Service*, Principal Investigator
2013-2016	Ecological Spectral Information System (ESIS): Integration of Spectral Data with Measurements of Vegetation Functional Traits, *NASA*, Co-Investigator
2013-2015	Geographic Data Chapter for the Chemical and Biological (CB) Agent Effects Manual 1, *Defense Threat Reduction Agency*, Co-Investigator
2013-2015	HyspIRI Discrimination of Plant Species and Functional Types Along a Strong Environmental-Temperature Gradient, *NASA*, Co-Principal Investigator
2011-2015	Near Real Time Science Processing Algorithm for Live Fuel Moisture Content for the MODIS Direct Readout System, *NASA*, Co-Investigator
2011-2014	Protective Action Triggers, *NSF*, Infrastructure Management and Extreme Events Program, Co-Principal Investigator
2011-2013	The Projected Effects of Climate Change Induced Changes in Vegetation on Future Hydrologic Energy Generation in California, *California Energy Commission*, Co-Principal Investigator
2011-2014	Climatic Drivers of Wildland Fire Events and Burn Severity, *Bureau of Land Management (BLM)*, Principal Investigator
2010-2014	Greater Sage-Grouse Habitat Use, *Utah Division of Wildlife Resources*, subcontract from Brigham Young University
2010-2012	Predicting phenological plant stages in the Upper Colorado Basin, *BLM*, Principal Investigator
2009	Remote Monitoring of Live Fuel Moisture Using a Soil Moisture Proxy, *BLM*, Principal Investigator
2008-2011	Spatial, spectral, and temporal requirements for improved hyperspectral mapping of plant functional type, plant species, canopy biophysics, and canopy biochemistry, *NASA*, Co-Investigator
2008	Monitoring tamarisk defoliation by the saltcedar leaf beetle along the middle Colorado River watershed, *State of Utah*, Cooperative Agriculture Pest Survey Program, Principal Investigator
2007-2013	Hyperspectral algorithms for mapping hot object temperature and trace gas emission, *National Geospatial-Intelligence Agency* (*NGA*), Principal Investigator

2006-2010	Modeling and measuring the spatio-temporal variability of methane emissions from tropical dambo wetlands, *NSF*, Geography and Regional Science Program, Co-Principal Investigator
2005-2006	An integrated field-based system for fusion of hyperspectral and interferometric radar data to support feature detection, surface characterization, and change detection, *Department of Defense*, Co-Investigator
2004-2007	Multisite integration of LIDAR and hyperspectral data for improved estimation of carbon stocks and fluxes, *NASA*, Co-Investigator
2004-2007	Mechanisms controlling annual, interannual, and decadal changes in California's carbon budget, *NASA*, Co-Investigator
2004-2006	IDL/ENVI code for endmember selection for advanced spectral mixture analysis, *NGA*, Co-Investigator
2000-2003	Mapping wildland fuels using combined hyperspectral and synthetic aperture radar for fire hazard assessment, *NASA*, Earth System Science Fellowship Program

C. Book Chapters

2018	Veraverbeke, S., P. Dennison, I. Gitas, G. Hulley, O. Kalashnikova, T. Katagis, L. Kuai, R. Meng, D. Roberts, and N. Stavros. Hyperspectral remote sensing of fire: A review. In Advanced Applications in Remote Sensing of Agricultural Crops and Natural Vegetation, Ed. P.S. Thenkabail, J.G. Lyon and A. Huete, CRC Press.
2017	Roberts, D.A., M. Alonzo, E. Wetherley, K. Dudley, and P. Dennison. Multiscale analysis of urban areas using mixing models. In Why Scale Still Matters: Applications That Advance GIScience and Remote Sensing. Ed. D.A. Quattrochi et al., Taylor Francis, 247-282.
2009	Ustin, S.L., D. Riano, A. Koltunov, D.A. Roberts, and P.E. Dennison. Mapping fire risk in Mediterranean Ecosystems of California: Vegetation type, Density, Invasive Species and Fire Frequency. In Earth Observation of Wildland Fire in Mediterranean Ecosystems, Ed. E. Chuvieco, 41-54.

D. Reports and White Papers

2016	Dennison, P.E., D.A. Roberts, J.Q. Chambers, C.S.T. Daughtry, J.P. Guerschman, R.F. Kokaly, G.S. Okin, P.F. Scarth, P.L. Nagler, and C.J. Jarchow. Global Measurement of Non-Photosynthetic Vegetation. RFI-2 White paper for the 2017-2027 Decadal Survey for Earth Science and Applications from Space, National Academies.
2016	Schoennagel, T., P. Morgan, J. Balch, P. Dennison, B. Harvey, R. Hutto, M. Krawchuk, M. Moritz, R. Rasker, and C. Whitlock. Insights from wildfire science: A resource for fire policy discussions. Headwaters Economics, http://headwaterseconomics.org/wphw/wp-content/uploads/wildfire-insights-paper.pdf

2016   Stavros, E.N., A.A. Bloom, T. Brown, J. Coen, P. Dennison, L. Giglio, R. Green, E. Hinkley, Z. Holden, S. Hook, W. Johnson, M.E. Miller, B. Peterson, B. Quayle, C. Ramirez, J. Randerson, D. Schimel, W. Schroeder, A. Soja, and M. Tosca. The Role of Fire in the Earth System. RFI-2 White paper for the 2017-2027 Decadal Survey for Earth Science and Applications from Space, National Academies.

2015   Dennison, P., S. Veraverbeke, N.H.F. French, M. Huesca, Y. Jin, T. Lodoba, J. Randerson, D. Roberts, B.M. Rogers, E.N. Stavros, A. Tayyebi, M. Tosca, and J. Wang. Burning Questions: Critical Needs for Remote Sensing of Fire Impacts on Ecosystems. White paper for initiation of the 2017-2027 Decadal Survey for Earth Science and Applications from Space, National Academies.

2015   Dennison, P.E., G.K. Fryer, M.J. Campbell, T.J. Cova, and B.W. Butler. Assessing Firefighter Safety Zones Using LIDAR Remote Sensing. Fire Management Today, 74(4), 32-35.

2011   Realmuto, V, I. Csiszar, P. Dennison, M. Foote, L. Giglio, M. Ramsey, G. Vaughan, M. Wooster, and R. Wright. HyspIRI High-Temperature Saturation Study. Jet Propulsion Laboratory, National Aeronautics and Space Administration.

2009   Peterson, S.H., M.E. Morais, J.M. Carlson, P.E. Dennison, D.A. Roberts, M.A. Moritz, and D.R. Weise. Spatial modeling of fire in shrublands using HFire. Res. Pap. PSW-RP-259. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 44 p.

E. Datasets

2018   Dennison, P.E. Fire emitted radiance spectra. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2NH2G

2018   Dennison, P.E. Range Creek Utah species spectra. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2HM1W

2018   Dennison, P.E. Rush Valley Utah sagebrush time series. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2C083

2018   Dennison, P.E., C.S.T. Daughtry, M. Quemada, S.K. Meerdink, P.D. Gader, E.B. Wetherley, D.A. Roberts, and R.F. Kokaly. Fractional cover simulated VSWIR dataset, noise and atmospheric correction artifacts included. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2S363

2018   Dennison, P.E., C.S.T. Daughtry, M. Quemada, S.K. Meerdink, P.D. Gader, E.B. Wetherley, D.A. Roberts, and R.F. Kokaly. Fractional cover simulated VSWIR dataset, original 10nm spectra. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2ND46

2018   Dennison, P.E., and M.E. Gardner. Hawaii 2000 vegetation species spectra. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2HT0K

2018   Dennison, P.E., and D.A. Roberts. Santa Monica Mountains vegetation species spectra. Published on EcoSIS.org, https://doi.org/doi:10.21232/C2894R

2018   Qi, Y. and P.E. Dennison. Missoula Montana lodgepole pine & big sagebrush time series. Published on EcoSIS.org, https://doi.org/10.21232/C2D08D

F. Invited Presentations

2018   Improving wildland firefighter safety using remote sensing. Boise State University, Jan 29, 2018, Boise ID.

2018   Improving wildland firefighter safety using remote sensing. South Dakota State University, Feb 1, 2018, Brookings SD.

2015   Facing a fiery future: Wildfire in the West and applications of remote sensing. NAKAMA talk series, University of Utah, Apr 3, 2015, Salt Lake City.

2014   Facing a fiery future: Wildfire applications of remote sensing. Global Change and Sustainability Center seminar, University of Utah, Oct 21, 2014, Salt Lake City.

2014   Applying spatial modeling to wildfire evacuation and safety. Colloquium, Department of Geography, University of New Mexico, Apr 4, 2014, Albuquerque.

2013   Satellite measurement of fire danger, Natural History Museum of Utah Scientist in the Spotlight, Oct 4, 2013, Salt Lake City.

2012   Wildfire in Utah and fire-climate connections, iMatter Utah, Sep 20, 2012, Salt Lake City.

2012   Remote measurement of atmospheric carbon dioxide absorption. Colloquium, Department of Geography, University of California Berkeley, Feb 27, 2012, Berkeley.

2010   When beetles attack: Remote sensing of insect impacts of vegetation. Environmental Studies program, University of Utah, Oct 19, 2010, Salt Lake City.

2010   When beetles attack: Remote sensing of insect impacts on vegetation. Colloquium, University of Denver, Feb 4, 2010, Denver.

2009   Live fuel moisture and wildfire danger: Results from California and lessons for Utah. Colloquium, Brigham Young University, Jan 22, 2009, Provo, Utah.

2008   Monitoring tamarisk defoliation and scaling evapotranspiration using remote sensing data (poster). American Geophysical Union Fall Meeting, Dec 15-19, 2008, San Francisco.

2008   Detecting fire and methane using hyperspectral shortwave infrared remote sensing data. GEOINT 2008, Oct 29, 2008, Nashville.

2008   Assessing wildfire hazard in southern California using GIS and remote sensing. ESRI Users Conference, Aug 6, 2008, San Diego.

2008   Remote sensing of fuel type, load, and condition: recent research and directions for the future. NASA Fire Science Workshop, Feb 20, 2008, College Park, MD.

2008   Monitoring and predicting live fuel moisture in southern California chaparral. Colloquium, Department of Biology, University of Utah, Feb 12, 2008, Salt Lake City.

2007   Multiple endmember spectral mixture analysis: new algorithms and applications. Colloquium, Center for Imaging Science, Rochester Institute of Technology, May 2, 2007, Rochester, NY.

2005   Hyperspectral and temporal remote sensing of wildland fuels and fires. Colloquium, Department of Meteorology, University of Utah, Nov 9, 2005, Salt Lake City.

2003   Southern California wildland fuels and fires: A remote sensing and modeling approach. Colloquium, Department of Geography San Diego State University, Dec 5, 2003, San Diego, CA.

2002   Mapping wildland fuels using hyperspectral and synthetic aperture radar remote sensing. Colloquium, Environmental Science Program, Whittier College, Apr 24, 2002, Whittier, CA.

G. Professional Conference Presentations

2018   Dennison, P.E., M.D. Foote, S.C. Joshi, A.K. Thorpe, and D.R. Thompson. Mapping methane plumes in AVIRIS-NG India campaign data and potential for global point source emissions monitoring using imaging spectroscopy. *American Geophysical Union Fall Meeting,* Dec 2018, Washington DC.

2018   Dennison, P.E., M.D. Foote, S.C. Joshi, A.K. Thorpe, D.R. Thompson, M. Pandya, and A. Chhabra. Methane and carbon dioxide plume mapping using AVIRIS-NG data. *NASA/ISRO AVIRIS-NG Science Meeting*, Aug 24 2018, Ahmedabad.

2018   Dennison, P.E., S. Veraverbeke, D. Roberts, and N. Stavros. Wildfire applications of imaging spectroscopy. *2018 HyspIRI and Surface Biology and Geology Community Science and Applications Workshop*. Aug 17 2018, Washington DC.

2018   Dennison, P.E., M.D. Foote, S.C. Joshi, A.K. Thorpe, and D.R. Thompson. Mapping methane plumes in AVIRIS-NG India campaign data (poster). *2018 HyspIRI and Surface Biology and Geology Community Science and Applications Workshop*. Aug 15 2018, Washington DC.

2017   Dennison, P.E., S. Joshi, A. Thorpe, D. Thompson, and S. Awate. Improved trace gas plume detection using Indian and US AVIRIS-NG data. *2017 HyspIRI Science Workshop*, Oct 19 2017, Pasadena.

2017   Dennison, P.E., R. Kokaly, D. Thompson, C. Daughtry, S. Meerdink, M. Quemada, and D. Roberts. Comparing methods for modeling fractional cover using simulated HyspIRI spectra. *2017 HyspIRI Science Workshop*, Oct 17 2017, Pasadena.

2017   Dennison, P.E., S. Joshi, A. Thorpe, D. Thompson, and S. Awate. Improved trace gas plume detection using Indian and US AVIRIS-NG data. *NASA/ISRO AVIRIS-NG Science Meeting*, Jul 13 2017, Ahmedabad.

2016   Dennison, P.E., R. Kokaly, D. Thompson, C. Daughtry, D. Roberts, J. Chambers, P. Nagler, G. Okin, and P. Scarth. Estimating achievable accuracy for global imaging spectroscopy measurement of non-photosynthetic vegetation cover. *American Geophysical Union Fall Meeting,* Dec 16 2016, San Francisco.

2016   Dennison, P.E., R. Kokaly, D. Thompson, C. Daughtry, D. Roberts, J. Chambers, P. Nagler, G. Okin, and P. Scarth. Global measurement of non-photosynthetic vegetation: Need and an effort to assess potential accuracy. *2016 HyspIRI Science Workshop*, Oct 18 2016, Pasadena.

2015   Dennison, P.E., A.R. Coates, D.A. Roberts, T.R. Berggren, and K.L. Roth. Monitoring the impacts of severe drought on plant species in Southern California chaparral. *American Geophysical Union Fall Meeting,* Dec 15 2015, San Francisco.

2015   Dennison, P.E., G.K. Fryer, M. Campbell, and B. Butler. Assessing firefighter safety zone characteristics. *International Wildland Fire Safety Summit & Human Dimensions of Wildland Fire Conference*, Apr 23 2015, Boise.

2015   Dennison, P.E. Wildfire research at the Utah Remote Sensing Applications Lab. *NASA Applied Science Program - Wildfire Program 2015 Annual Review*, Feb 10 2015, Salt Lake City.

2014   Dennison, P.E., A.R. Coates, D.A. Roberts, K. Dudley, and K.L. Roth. Changes in non-photosynthetic vegetation cover and liquid water thickness during California's record drought. *2014 HyspIRI Science Workshop*, Oct 14 2014, Pasadena.

2014   Dennison, P.E. Imaging spectroscopy for wildfire applications. *Ecological Society of America Annual Meeting*, Aug 13, 2014, Sacramento.

2014   Dennison, P.E., S.C. Brewer, J.D. Arnold, and M.A. Moritz. Large wildfire trends in the Western United States from MTBS data, 1984-2011. *Large Wildland Fires: Social, Political, and Ecological Effects*. May 20, 2014, Missoula, MT.

2014   Dennison, P.E., G.F. Fryer, and T.J. Cova. Automated identification of firefighter safety zones using lidar and multispectral data. *Large Wildland Fires: Social, Political, and Ecological Effects*. May 20, 2014, Missoula, MT.

2014   Dennison, P.E., A. Coates, D. Thompson, R. Green, and J. Boardman. L2 simulated HyspIRI VSWIR products: Spatial and noise characteristics. *HyspIRI Airborne Preparatory Campaign Meeting*, Mar 2014, Washington, DC.

2014   Dennison, P.E., D. Roberts, A. Coates, and K. Roth. Drought impacts on vegetation measured using simulated HyspIRI VSWIR products. *HyspIRI Airborne Preparatory Campaign Meeting*, Mar 2014, Washington, DC.

2013   Dennison, P.E., S.C. Brewer, J.D. Arnold, and M.A. Moritz. Regional trends in large wildfires and climate in the Western U.S., 1984-2010. *American Geophysical Union Fall Meeting*, Dec 2013, San Francisco.

2013   Dennison, P.E. and J. Boardman. Creating HyspIRI-like data using AVIRIS imagery acquired during the HyspIRI airborne campaign. *2013 HyspIRI Science Workshop*, Oct 2013, Pasadena.

2013   Dennison, P.E., A.K. Thorpe, D.A. Roberts, and E.R. Parydjak. Modeling sensitivity of imaging spectrometer data to carbon dioxide and methane plumes. *5th Workshop on Hyperspectral Image and Signal Processing*, Jun 27, 2013, Gainesville, FL.

2012   Dennison, P.E. and Y. Qi. Why don't we have remote monitoring of live fuel moisture yet? *5th International Fire Ecology and Management Congress*, Dec 5, 2012, Portland OR.

2012   Dennison, P.E., A.K. Thorpe, Y. Qi, D.A. Roberts, R.O. Green, E.S. Bradley and C.C. Funk. AVIRIS and HyspIRI sensitivity to atmospheric carbon dioxide plumes. *2012 HyspIRI Science Workshop*, Oct 2012, Washington DC.

2012   Dennison, P.E., and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Program Symposium*, Aug 22, 2012, Washington DC.

2011   Dennison, P.E., Y. Qi, A.K. Thorpe, E.R. Pardyjak, D.A. Roberts, E.S. Bradley and C.C. Funk. High spatial resolution mapping of power plant carbon dioxide plumes using imaging spectrometer data. *American Geophysical Union Fall Meeting*, Dec 9, 2011, San Francisco.

2011   Dennison, P.E., and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Program Symposium*, Aug 30, 2011, Washington DC.

2011   Dennison, P.E., Y. Qi, A.K. Thorpe, D.A. Roberts, E.S. Bradley, and C.C. Funk. Detection and measurement of power plant CO_2 plumes using imaging spectrometer data. *2011 HyspIRI Science Workshop*, Aug 24 2011, Washington DC.

2011   Dennison, P.E. and D.S. Matheson. Spatial scaling of imaging spectrometer fire detection and temperature modeling. *2011 HyspIRI Science Workshop*, Aug 24, 2011, Washington DC.

2011   Dennison, P.E., A.N. Schaaf, G.K. Fryer, K.L. Roth, and D.A. Roberts. Mapping plant functional types across multiple spatial and spectral resolutions using multiple endmember spectral mixture analysis. *2011 AAG Annual Meeting*, Apr 15, 2011, Seattle.

2011   Dennison, P.E., R. Meng, A. Coates, Y. Qi, K. Hultine, P. Nagler, and E. Glenn. Remote monitoring of tamarisk defoliation by the saltcedar leaf beetle. *The Landscape Ecology of Tamarisk, 2011 Research Conference*. Feb 17, 2011, Tucson, AZ.

2010   Dennison, P.E., and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Program Symposium*, Sep 15, 2010, Washington DC.

2010   Dennison, P.E. and D.S. Matheson. Mapping effective fire temperature using AVIRIS and MASTER. *2010 HyspIRI Science Workshop*, Aug 25, 2010, Pasadena.

2010   Dennison, P.E., A.N. Schaaf, G.K. Fryer, K.L. Roth, and D.A. Roberts. Mapping vegetation across spatial and spectral scales using multiple endmember spectral mixture analysis. *2010 HyspIRI Science Workshop*, Aug 25, 2010, Pasadena.

2010   Dennison, P.E. Measuring fuel and wildfire properties using hyperspectral remote sensing data. *U.S. Forest Service Hyperspectral Symposium*, Jan 19, 2010, Salt Lake City, UT.

2009   Dennison, P.E., and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Program Symposium*, Sep 29, 2009, Washington DC.

2009   Dennison, P.E., K. Cavanaugh, D. Siegel, and R. Green. Mapping floating aquatic vegetation (kelp) with imaging spectroscopy at spatial scales from 4 to 60 m using linear spectral mixture modeling. *2009 HyspIRI Workshop*, Aug 12, 2009, Pasadena.

2009   Dennison P.E., A.N. Guess, K.R. Hultine, T. Maori, P.L. Nagler, E.P. Glenn, and J.R. Ehleringer. Using remote sensing to monitor tamarisk defoliation by the saltcedar leaf beetle in southern Utah. 2009 *Utah Geographic Information Council Conference*, Apr 16, 2009, Midway, Utah.

2009   Dennison, P.E. Detecting wildfires in hyperspectral remote sensing data. *Association of American Geographers Annual Meeting*, Mar 25, 2009, Las Vegas.

2009   Dennison P.E., A.N. Guess, K.R. Hultine, T. Maori, P.L. Nagler, E.P. Glenn, and J.R. Ehleringer. Monitoring tamarisk defoliation by the saltcedar leaf beetle using remote sensing. *2009 Tamarisk and Russian Olive Research Conference*, Feb 19, 2009, Reno.

2008   Dennison, P.E. and M.A. Moritz. A critical live fuel moisture threshold for large fires in southern California: Threshold evidence and predictability. *Pacific Coast Fire Conference*, Dec 3, 2008, San Diego.

2008   Dennison, P.E., M.K. Hansen, and D.J. Brown. Classifying Ugandan wetland soils using multispectral and topographic remote sensing data. *3rd Global Workshop on Digital Soil Mapping*, Oct 2, 2008, Logan, UT.

2008   Dennison, P.E., and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Symposium*, Sep 10, 2008, Washington DC.

2008   Dennison, P.E., L. Kammer, and D. Roberts. Detecting fire in hyperspectral data for fire temperature measurement. *American Society for Photogrammetry & Remote Sensing 2008 Annual Conference*, Apr 30, 2008, Portland, OR.

2008   Dennison, P.E., P.L. Nagler, K.R. Hultine, E.P. Glenn, and J.R. Ehleringer. Monitoring the impacts of tamarisk biocontrol using remote sensing. *Twelfth Biennial USDA Forest Service Remote Sensing Applications Conference*, Apr 15, 2008, Salt Lake City.

2007   Dennison, P.E., M.K. Hansen, S.A. Graves, D.J. Brown, and E. Matthews. Mapping methane-significant dambo wetlands in central Uganda using remote sensing and topographic data, *American Geophysical Union Fall Meeting*, Dec 2007, San Francisco.

2007   Dennison, P.E., K.R. Hultine, and J.R. Ehleringer. Remote sensing of tamarisk defoliation by saltcedar leaf beetle, *2007 Tamarisk Symposium*, Oct 24, 2007, Grand Junction, CO.

2007   Dennison, P.E. and D.A. Roberts. Hyperspectral algorithms for mapping hot object temperature and trace gas emission. *National Geospatial-Intelligence Agency Academic Research Symposium*, Sep 12, 2007, Washington DC.

2007   Dennison, P.E. and M.A. Moritz. Evaluating predictive models of chaparral live fuel moisture for wildfire season forecasting in Southern California. *Association of American Geographers Annual Meeting*, Apr 19, 2007, San Francisco.

2006   Dennison, P.E., T.J. Cova, and M.A. Moritz. Modeling community evacuation triggers for extreme wildfire conditions. *Association of American Geographers Annual Meeting*, Mar 9, 2006, Chicago.

2005   Dennison, P.E., K. Charoensiri, R.O. Green, D.A. Roberts, and S.H. Peterson. Simultaneous retrieval of wildfire temperature and fuel type using AVIRIS. *2005 AVIRIS Earth Science and Applications Workshop*, May 27, 2005, Pasadena, CA.

2005   Dennison, P.E., K., Charoensiri, D.A. Roberts, S.H. Peterson, and R.O. Green. Deriving high-resolution fire parameters from hyperspectral remote sensing data for wildfire modeling. *Association of American Geographers Annual Meeting*, Apr 7, 2005, Denver.

2004   Dennison, P.E, D.A. Roberts, R.O. Green, J.L. Rechel, S.H. Peterson and C. Jones. Mapping fuels and fires in southern California chaparral using hyperspectral remote sensing. *Tenth Biennial USDA Forest Service Remote Sensing Applications Conference*, Apr 7, 2004, Salt Lake City.

2004   Dennison, P.E., and D.A. Roberts. Examining seasonal changes in canopy moisture using AVIRIS time series data. *2004 AVIRIS Earth Science and Applications Workshop*, Apr 1, 2004, Pasadena, CA.

2003   Dennison, P.E., D.A. Roberts and C. Lee. Measuring chaparral fuel type, biomass, and moisture for fire danger assessment in Southern California. *Association of American Geographers Annual Meeting*, Mar 10, 2003, New Orleans.

2003   Dennison, P.E. and D.A. Roberts. Endmember selection for multiple endmember spectral analysis. *12th Airborne Earth Science Workshop*, Feb 26, 2003, Pasadena, CA.

2002   Dennison, P.E., Remote sensing of southern California chaparral. *Wildfire Physics Workshop*, Oct 21, 2002, Quintette, CA.

2002   Dennison, P.E. and D.A. Roberts, Examining chaparral stand age and biomass using AIRSAR. *11th Airborne Earth Science Workshop*, Mar 6, 2002, Pasadena, CA.

2001   Dennison, P.E., D.A. Roberts, and C. Lee. Characterizing chaparral fuels using hyperspectral and synthetic aperture radar data. *RESAC Annual Meeting*, Apr 1, 2001, St. Louis.

2001   Dennison, P.E., M.E. Gardner, D.A. Roberts, and R.O. Green. Calibration and vegetation field spectra collection for the 2000 AVIRIS Hawaii deployment, *10th Airborne Earth Science Workshop*, Feb 24, 2001, Pasadena, CA.

2000   Dennison, P.E., D.A. Roberts, and C. Lee. Integrated assessment of wildfire hazard in southern California, *Integrating Research on Managing Wildland Fuels and Fires*, Nov 13, 2000, Los Alamos, NM.

2000   Dennison, P.E., D.A. Roberts, and J.C. Regelbrugge. Evaluation of synthetic aperture radar for fire hazard assessment in southern California chaparral ecosystems, *Progress in Electromagnetics Research Symposium*, Jul 9, 2000, Cambridge, MA.

2000   Dennison, P.E., D.A. Roberts, and J.C. Regelbrugge. Characterizing chaparral fuels using combined hyperspectral and synthetic aperture radar, *9th Airborne Earth Science Workshop*, Feb 24, 2000, Pasadena, CA.

H. Interdisciplinary Research Affiliations

2009-present   Global Change and Sustainability Center, University of Utah

2004-2018   Center for Natural and Technological Hazards (CNTH), University of Utah

2007-2008   Great Basin Domain (Domain 15) Proposal Team, National Ecological Observatory Network, National Science Foundation

2006-2008   Ecosystems, Humans, and Built Environment initiative, University of Utah

2005-2008   Center for Water, Ecosystem, and Climate Science (CWECS), University of Utah

III. TEACHING

A. Courses

Course #	Title	Semesters
GEOG 1100	Exploring the World through Google Earth	Spring 2011
GEOG 1100	Measuring Global Change From Space	Spring 2005, Fall 2005, Fall 2006, Spring 2008
GEOG 3110	The Earth From Space: Remote Sensing of the Environment	Fall 2004-2010, 2012, 2016
GEOG 5110	Environmental Analysis through Remote Sensing	Spring 2013
GEOG 5120	Advanced Optical Remote Sensing	Fall 2019
GEOG 5120	Environmental Optics	Spring 2006-2011, 2016, Fall 2012-2014, 2017

GEOG 6445	Remote Sensing of Vegetation	Spring 2015, 2017
GEOG 6960	Seminar on Hyperspectral Remote Sensing	Spring 2005
GEOG 6960	Seminar on Fire Modeling	Spring 2006
GEOG 6960	Seminar on Optical Remote Sensing of Vegetation	Spring 2007
GEOG 6960	Interdisciplinary Seminar on Climate Change	Fall 2007
GEOG 6960	Seminar on Hyperspectral Remote Sensing of Plant Species and Functional Type	Fall 2008
GEOG 6960	Seminar on Remote Sensing of Wildfire	Fall 2009
GEOG 6960	Applied Remote Sensing Seminar	Fall 2010
GEOG 6961	Seminar in Geographic Thought and Inquiry	Fall 2013-2017

IV. ADVISING

A. Chaired Graduate Committees
1. Geography Ph.D.
a. Completed

2019	Brent Lloyd, "Evaluating health and farming methods in Burkina Faso"
2018	Mickey Campbell, "Remote sensing and geospatial modeling of wildland firefighter safety"
2015	Ran Meng, "Study of two vegetation-related disturbances (beetle herbivory and wildfire) in the western United States using optical remote sensing"
2014	Yi Qi, "New physical foundations for remote sensing estimation of live fuel moisture content and fire danger"
2014	Chris Balzotti, "Exploring the use of fine resolution nested ecological niche models to identify greater sage-grouse (*Centrocercus urophasianus*) habitat and connectivity potential across a diverse landscape"
2012	Ryo Michishita, "Dynamic modeling of wetland vegetation using multi-sensor multi-temporal remotely sensed data in the Poyang Lake Area, China"

2. Geography Master's
a. Completed

2019	Sandra Miller, "Spatial modeling of wildland fire ignition potential in Utah"
2017	Erika Wenrich, "Quantifying drought-induced changes in green vegetation fraction and classification accuracy using hyperspectral data for the central Sierra Nevada, California"

2017	Josh Reynolds, "Comparing urban vegetation cover with summer land surface temperature in the Salt Lake Valley"
2015	Austin Coates, "Hyperspectral remote sensing for monitoring species-specific drought impacts in southern California"
2014	Kenneth Dudley, "Mapping species across multiple dates of hyperspectral imagery using iterative endmember selection and multiple endmember spectral mixture analysis"
2013	James Arnold, "Modeling climate-fire connections within the Great Basin and Upper Colorado River Basin, Western United States", co-advised with Dr. Simon Brewer
2012	Greg Fryer, "Wildland firefighter entrapment avoidance: developing evacuation trigger points utilizing the WUIVAC fire spread model"
2012	Ashley Powell, "Understanding the relationships between fire, climate, and population in Central Uganda from 1990-2010"
2011	Scott Matheson, "Evaluating the effects of spatial resolution on hyperspectral fire detection and temperature retrieval"
2010	Mark Beaty, "An examination of a pixel replacement algorithm for monitoring post-fire chaparral recovery using indices derived from AVIRIS data"
2010	Jeremy Larsen, "Analysis of wildfire evacuation trigger buffer modeling from the 2003 Cedar Fire, California"
2010	Abigail Schaaf, "Using hyperspectral data to classify vegetation at the plant functional type-level in mountain terrain at three spatial resolutions"
2008	Scott Graves, "Examining vegetation phenology of Ugandan dambos using spectral mixture modeling fractions"
2008	Matt Hansen, "Decision tree classification of dambo wetlands using remotely sensed multispectral and topographic data"

b. In progress

2018-present	Patrick Sullivan
2019-present	Luis Garcia
2019-present	Troy Saltiel

3. Master's of Science in Geographic Information Science

a. Completed

2018	Michael Mason
2018	Alex McComb
2018	Marc Wilson
2017	Sarah Rivera
2017	Siwen Cheng

2017	Michael Eichorn
2017	Sumerset Ellis
2017	Mitch Ottesen
2017	Megen Theobald
2017	Yiwei Wang
2017	Chelsea Welker
2016	Steven Arnold
2016	Ed Graves
2016	Xiaomin Jiao
2015	Sam Hall
2015	Emanuel Vasquez
2014	Kaitlin Barklow
2014	Brendan Duffy
2014	Curtis Olson
2014	Erich Rentz
2014	Deb Traver

V. SERVICE
A. Professional and Community Service
1. Editorial and Advisory Boards

Remote Sensing of Environment Editorial Board	2011-present
USGS Land Processes Distributed Active Archive Center User Working Group	2017-present

2. Special Issues
Co-editor, *Remote Sensing of Environment* special issue on the Hyperspectral Infrared Imager (HyspIRI), 2015

3. Manuscript Reviews
Biological Invasions
Conservation Physiology
Diversity and Distributions
Earth's Future
Ecohydrology
Ecological Applications
Environmental Monitoring and Assessment
Environmental Research Letters
European Journal of Remote Sensing
Forest Ecology and Management
Geoderma

Geography Compass
Geophysical Research Letters
Global Change Biology
IEEE Geoscience and Remote Sensing Letters
IEEE Trans. on Geoscience and Remote Sensing
International Journal of Applied Earth Observation and Geoinformation
International Journal of Disaster Risk Reduction
International Journal of Geographical Information Science
International Journal of Remote Sensing
International Journal of Wildland Fire
ISPRS Journal of Photogrammetry and Remote Sensing
Journal of Arid Environments
Journal of the American Society for Horticultural Science
Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Journal of Zhejiang University Science
Landscape Ecology
Landscape and Urban Planning
Nature Climate Change
Nature Communications
Pedosphere
Photogrammetric Engineering & Remote Sensing
Planetary and Space Science
PLOS ONE
Proceedings of the National Academy of Sciences
Professional Geographer
Progress in Physical Geography
Rangeland Ecology and Management
Regional Environmental Change
Remote Sensing
Remote Sensing Applications: Society and Environment
Remote Sensing of Environment
Science of the Total Environment
Sensors
Soil Science Society of America Journal
Wetlands Ecology and Management