

John Rogan
Curriculum vitae

Assistant Professor
Graduate Clark School of Geography
Clark University
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Education **Ph.D. San Diego State University / University of California at Santa Barbara, USA**
Joint Doctoral Program in Geography, 2004

M.A. University of Arizona, Tucson, USA
Department of Geography and Regional Development, 1998

B.A. University of Arizona, Tucson, USA
Department of Geography and Regional Development, Magna Cum Laude, 1996

Specialties / Interests

Biogeography and Landscape ecology, Geographic Information Science, Data uncertainty and visualization, Land cover / Land use change mapping and modeling, Biophysical remote sensing of terrestrial ecosystems

Software Image processing/GIS: ERDAS Imaging, ENVI, IDRISI, PCI, ARC/INFO, Arcview, IPW, DIME

Experience Statistics: Spacestat, Splus

Operating Systems: UNIX, Windows NT, XP

Professional Affiliations

Association of American Geographers, American Society of Photogrammetry and Remote Sensing, The Institute of Electrical and Electronic Engineers, Inc. (IEEE).

Associate Editor, Canadian Journal of Remote Sensing

Editorial Board, Professional Geographer

Grants

- Co-P.I. Gordon and Betty Moore Foundation \$989,934, "Impact of Extreme Weather Events on the Forests of Yucatan" (co-PI with Rutgers and ECOSUR) (2008-2010)
- Co-P.I, Henry David Thoreau Foundation \$24,762. (2007-2008)
- Co-P.I., NASA-LCLUC Program –"Characterizing Fire Activity in the Yucatan Peninsula". \$200,000 (2006-2008)
- P.I., Clark University New Faculty Development Grant-"Timber harvest monitoring in Massachusetts using remote sensing data". \$1000 (2003-2004).
- Co-P.I.: USDA-APHIS Cooperative Agreement-"Analysis and interpretation of hyperspectral imagery for mapping distributions of *Fraxinus* species and emerald ash borer host trees." \$300,000 (2003-2006)
- GIScience 2002 Travel Grant. Second International Conference on Geographic Information Science, Boulder, Colorado, USA, September 25-28.

Awards and Honors

- 2008: Best Paper Award for Early Career Scholars in Remote Sensing (Association of American Geographers Remote Sensing Specialty Group)
- 2008: Hayden Junior Faculty Fellow for excellence in teaching and scholarship (Clark University)
- 2005: Clark University Hodgkins Junior Faculty Award (Clark University)
- 2004: University Consortium for Geographic Information Science (UCGIS) Environmental Systems Research Institute (ESRI) Young Scholars Award.
- 2004: LEICA Geosystems Award for Best Scientific Paper in Remote Sensing (Association of Photogrammetry and Remote Sensing).

- 2003: Best Paper Award-International Geographic Information Foundation (IGIF). Presented at the Annual Meeting of the Association of American Geographers, New Orleans, LA, March 12-17, 2003.
- 2002: Davis S. Simonett Memorial Fellowship (2001-2002). Department of Geography, University of California, Santa Barbara
- 2001: Certificate for Excellent Oral Paper Presentation, University Consortium for Geographic Information Science (UCGIS), Summer Assembly, June 20-24
- 2000: William and Vivian Finch Award for Remote Sensing (2000-2001), Department of Geography, San Diego State University

Publications

Books

M. Wulder and **J. Rogan**, In Press, Monitoring of large Area Forest Cover and Dynamics, CRC/Lewis

Refereed Journal Articles

- Rogan, J.**, D. Stow, D.A. Roberts, and J. Franklin, In Press, Reducing the effects of spatially-varying haze in Landsat TM and ETM+ data for operational land-cover monitoring. *International Journal of Remote Sensing*.
- Rogan, J.**, J. Franklin, D. Stow, and D.A. Roberts, In Press, A comparison of linear change detection approaches for monitoring multitemporal land-cover modification. *Photogrammetric Engineering and Remote Sensing*.
- Lippitt, C., **J. Rogan**, J. Toledano, F. Sangermano, J. R. Eastman, V. Maesto, and A. Sawyer. 2008. Incorporating anthropogenic variables into a species distribution model to map gypsy moth risk. *Ecological Modeling* 210(3): 339-350.
- Rogan, J.**, J. Franklin, D. Stow, J. Miller, D.A. Roberts, and C. Woodcock, 2008, Mapping land cover modifications over large areas: a comparison of machine learning techniques. *Remote Sensing of Environment*. 112(5):2272-2283.
- Stow, D., Petersen, A., **Rogan, J.** and Franklin, J., 2007, Mapping Burn Severity of Mediterranean-Type Vegetation Using Satellite Multispectral Data. *GIScience and Remote Sensing*, 44, (1): 1-23.
- Rogan, J.**, and D.M. Chen. 2004. Remote sensing technology for mapping and monitoring land cover and land use change. *Progress in Planning* 61 (4): 301-325.
- Treitz, P., and **J. Rogan**. 2004. Remote sensing for mapping and monitoring land cover and land use change: An introduction. *Progress in Planning* 61 (4): 269-279.
- Rashed, T., J.R. Weeks, D. Roberts, **J. Rogan**, and R. Powell, 2003, measuring the physical composition of urban morphology using multiple endmember spectral mixture models. *Photogrammetric Engineering and Remote Sensing*, 69(9), 1011-1020.
- Rogan, J.**, J. Miller, D.A. Stow, J. Franklin, L. Levien, and C. Fischer, 2003, Land cover change mapping in California using classification trees with Landsat TM and ancillary data. *Photogrammetric Engineering and Remote Sensing*, 69(7), 793-804.
- Rogan, J.**, J. Franklin, and D.A. Roberts, 2002, A comparison of methods for monitoring multitemporal vegetation change using Thematic Mapper imagery. *Remote Sensing of Environment*, 80, 143-156.
- Rogan, J.**, and J. Franklin, 2001, Mapping wildfire burn severity in southern California forests and shrublands using Enhanced Thematic Mapper imagery. *Geocarto International*, 16(4), 89-99.
- Rogan, J.**, and S.R. Yool, 2001, Mapping fire-induced vegetation depletion in the Peloncillo Mountains, Arizona and New Mexico. *International Journal of Remote Sensing*, 22(16), 3101-3121.
- Franklin, J., D.K. Simons, D. Beardsley, **J. Rogan**, and H. Gordon, 2000, Evaluating errors in a digital vegetation map with forest inventory data and accuracy assessment using fuzzy sets. *Transactions in GIS*, 5(4), 285-304.

Book Chapters

- Miller, J., and **J. Rogan**, 2007, Using GIS and remote sensing for ecological modeling and monitoring. In *Integration of GIS and Remote Sensing*, V. Mesev, Ed. Wiley and Sons
- Rogan, J.** and J. Miller, 2006, GIS data in mapping of forest disturbance and change. In *Forest Disturbance and Spatial Pattern*. M. Wulder and S. Franklin (Editors), CRC/Lewis.

- Rogan, J.**, In Press, Change detection techniques in urban areas. In *Remote Sensing of Urban and Suburban Areas*, C. Jurgens and T. Rashed (Editors), Kluwer Academic Publishing.
- Kasischke, E.S., S. Goetz, M.C. Hansen, M. Ozdogan, **J. Rogan**, S. L. Ustin, and C. E. Woodcock, 2004, Temperate and Boreal Forests. In *Manual of Remote Sensing Volume 4: Remote Sensing for Natural Resource Management and Environmental Monitoring*, S. Ustin (Editor). John Wiley & Sons, 848 pages.
- Franklin, J., S.R. Phinn, C.E. Woodcock, and **J. Rogan**, 2003, Rationale and conceptual framework for classification approaches to assess forest resources and properties. In *Methods and Applications for Remote Sensing of Forests: Concepts and Case Studies*, M. Wulder and S.E. Franklin (Editors). Kluwer Academic Publishing.

Published Conference Proceedings

- O'Neal, K.J., **J. Rogan**, and S.R. Yool, Forthcoming. Monitoring post-fire vegetation regeneration in a Madrean ecosystem. In *Proceedings of Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, 2004
- Rogan, J.**, K.J. O'Neal, and S.R. Yool, Forthcoming. Analysis of twenty years of landscape fragmentation in the Peloncillo Mountains in relation to wildfire, prescribed burning and cattle grazing. In *Proceedings of Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, 2004.
- Rogan, J.**, and S.R. Yool, Forthcoming, Measuring and Monitoring Responses of Madrean Ecosystems to Management Variability: Translating Fire Research into Local Expertise for Ecosystem Sustainability. In *Proceedings of Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, 2004.
- Sweet, S., **J. Rogan**, and R.G. Pontius, Forthcoming. Assessing the accuracy of fire spread model outputs. In *Proceedings of the International Symposium on Environmental Software Systems (ISESS 2004: A Workshop on Environmental Risk and Emergency)*. James Madison University, Harrisonburg, VA, May 18-21.
- Rogan, J.**, J. Miller, D. Stow, and J. Franklin, L. Levien, and C. Fischer, 2002, Operational detection of multitemporal Landsat TM data. In *Proceedings of the Ninth Biennial Remote Sensing Applications Conference*, April 8-12, San Diego, California.
- Rogan, J.**, and J. Franklin, 2001, Mapping burn severity in southern California using spectral mixture analysis. In *Proceedings of the International Geoscience and Remote Sensing Symposium (IGARRS 01)*, Sydney, Australia, 9-13 July.
- Rogan, J.**, J. Franklin, D. Stow, L. Levien, and C. Fischer (2001), Toward operational monitoring of forest cover change in California using multitemporal remote sensing data. In *Proceedings of the International Geoscience and Remote Sensing Symposium (IGARRS 01)*, Sydney, Australia, 9-13 July.
- O'Neal, K.J., **J. Rogan**, and S.R. Yool, 2004. Monitoring post-fire vegetation regeneration in a Madrean ecosystem. *Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, Tucson AZ.

Other

- Rogan, J.**, D. Stow, J. Franklin, and J. Miller, 2002. Using multitemporal remote sensing and GIS to monitor land cover change in California. *Earth Observation Magazine*.
- Polsky, C., **J. Rogan**, R.G. Pontius Jr., and B.L. Turner II (2007), Undergraduate GIScience Research at Clark University: The HERO Program. *Council on Undergraduate Research*.

Conference Presentations

- Rogan, J.**, J. Franklin, and D.A. Stow, 2004. Mapping land cover modifications over large areas: A comparison of **Presentations** machine learning techniques. *Annual Meeting of the Association of American Geographers*, March 14-19, Philadelphia, PA.
- Rogan, J.**, J. Franklin, J. Miller, and D.A. Stow, 2004. Assessing uncertainty in large area maps generated for land cover change monitoring. *The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*. Portland, Maine, June 28 - July 1.

Rogan, J., K.J. O'Neal, and S.R. Yool, 2004. Analysis of twenty years of landscape fragmentation in the Peloncillo Mountains in relation to wildfire, prescribed burning and cattle grazing. *Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, Tucson AZ.

Rogan, J., and S.R. Yool, 2004. Measuring and Monitoring Responses of Madrean Ecosystems to Management Variability: Translating Fire Research into Local Expertise for Ecosystem Sustainability. *Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas*, May 11-14, Tucson AZ.

Sweet, S., **J. Rogan,** and R.G. Pontius, 2004. Assessing the accuracy of fire spread model outputs. *Annual meeting of the International Symposium on Environmental Software Systems (ISESS 2004: A Workshop on Environmental Risk and Emergency)*. James Madison University, Harrisonburg, VA, May 18-21.

Rogan, J., P. Kyriakidis, J. Franklin, D. Stow (2002 Poster and extended abstract). Evaluation of thematic change map classification accuracy using geostatistical methods. Presented at GIScience 2002 Second International Conference on Geographic Information Science, Boulder, Colorado, USA, September 25-28

Lieberman, A., and **J. Rogan** (2002 Presentation and abstract). Mapping fire effects in Southern California Mediterranean vegetation using Ikonos and Landsat ETM imagery. Presented at Association of Pacific Coast Geographers Annual Meeting, San Bernardino CA, October 2-6.

Rogan, J., P. Kyriakidis, J. Franklin, and D. Stow (2002 Poster and extended abstract). Evaluation of Thematic Change Map Classification Accuracy Using Geostatistical Methods. Presented at GIScience 2002 Second International Conference on Geographic Information Science, Boulder Colorado, September 25-28.

Rogan, J., Franklin, J., and Stow, D., Operational Monitoring of land Cover Change in California. Presented at the 22nd Annual ESRI International User Conference, San Diego, California, July 8th-12th.

Rogan, J., J. Franklin and D. Stow (2002 Poster). Operational monitoring of land cover change in California. Presented at the 22nd Annual ESRI International User Conference, San Diego, California, July 8th-12th.

Rogan, J., J. Franklin and D. Stow (2002 Poster). Mapping disturbances in forest and shrub cover in southern California using remote sensing data. Presented at Santa Margarita Ecological Reserve Station Spring Celebration Showcase, Santa Margarita Ecological Reserve, Riverside County, California, April 27th.

Lieberman, A., **J. Rogan,** D. Stow and J. Franklin (2002 Poster and abstract). An evaluation of Kauth Thomas and Normalized Burn Ratio enhancement techniques for delineating burn severity. Presented at the Ninth Biennial Remote Sensing Applications Conference, April 8th-April 12th.

Rogan, J. and J. Franklin, D. Stow, L. Levien and C. Fischer (2002 Presentation and abstract). Operational detection of changes in forest and shrub cover in California using multitemporal Landsat data. Presented at the Ninth Biennial Remote Sensing Applications Conference, April 8th-April 12th.

Rogan, J., J. Franklin, D. Stow, J. Miller (2002 Presentation and abstract). A comparison of classification techniques for mapping multitemporal change in forest cover using Thematic Mapper imagery. Presented at the Ninth Biennial Remote Sensing Applications Conference, April 8th-12th.

Rogan, J., D. Stow, J. Franklin, L. Levien and C. Fischer (2002 Poster and 6abstract). Evaluating the utility of a space-varying haze equalization algorithm in multitemporal remote sensing applications. Presented at the Ninth Biennial Remote Sensing Applications Conference, April 8th-12th.

Rogan, J., and J. Franklin (2002 Presentation and abstract). Comparison of classification techniques for mapping multitemporal forest cover change using Thematic Mapper imagery. Presented at the Annual Meeting of the Association of American Geographers, Los Angeles, California, March 17th-23rd.

Rogan, J., and J. Franklin (2001 Presentation and abstract). Monitoring forest cover disturbance in California using multitemporal remote sensing data. Presented at the 64th Annual Meeting of the Association of Pacific Coast Geographers. University of California Santa Barbara, California, September 12-15.

Rogan, J., and J. Franklin (200 Presentation and abstract). Mapping burn severity in southern California using spectral mixture analysis, In Proceedings of the International Geoscience and Remote Sensing Symposium (IGARRS 01), Sydney, Australia, July 9-13.

Rogan, J., J. Franklin, D. Stow, L. Levien and C. Fischer (2001 Presentation and abstract). Toward operational monitoring of forest cover change in California using multitemporal remote sensing data, In Proceedings of the International Geoscience and Remote Sensing Symposium (IGARRS 01), Sydney, Australia, July 9-13.

Rogan, J. and J. Franklin and J. Miller (2001 Poster). Mapping fire severity in southern California forests and shrublands using spectral mixture analysis. Presented at the 21st Annual ESRI International User Conference, San Diego, California July 9-13.

Rogan, J. and J. Franklin (2001 Presentation and paper). Estimation, mapping and evaluation of thematic change-map classification accuracy using geostatistical methods. Presented at the University Consortium for Geographic Information Science Student Paper Competition, Summer Assembly, June 12-16.

Rogan, J. (2001 Presentation and abstract). A Quantitative comparison of methods for monitoring multitemporal vegetation change using Thematic Mapper imagery, Presented at the California State University 15th Annual Student Research Competition (Hosted by San Jose State University, April 27-28.

Rogan, J., and J. Franklin (2001 Presentation and abstract). Mapping fire severity in southern California using spectral mixture analysis techniques. Presented at the Annual Meeting of the Association of American Geographers, New York, New York, 27 February-3 March.

Rogan, J. (2000 Presentation and abstract). Mapping Forest Cover Change Using Multitemporal Spectral Mixture Analysis: a Pilot Study in Southern California. Presented at the California State University 14th Annual Student Research Competition (Hosted by California State Polytechnic University, Pomona, May 6th.

Rogan, J., and J. Franklin (2000 Presentation and abstract). Processing Multitemporal TM imagery to extract forest cover change features in Cleveland National Forest, Southern California. Presented at the Annual Meeting of the Association of American Geographers, Pittsburgh, Pennsylvania, April 4-8.

Invited Presentations (sole presenter unless noted)

School of Natural Resources, University of California Berkeley, CA: "Tropical Fire: Results from the Southern Yucatan Peninsular Region (March 2008)

Department of Geography, San Diego State University, San Diego CA: "Leaves to landscapes: Mapping land cover through space and time" (November 2006)

Department of Geography, University of British Columbia, Victoria, Canada: "Large area monitoring using remotely sensed data" (March 2006)

Department of Geography, University of Arizona, Tucson AZ: "Application of machine learning classifiers to complex land cover change mapping scenarios" (February 2004).

Harvard Forest Research Center, Petersham, MA: "Proof of Concept: A Proposal to Map Land Cover Modifications in New England Using Remote Sensing Data" (November 2003).

Department of Geography, University of Connecticut, CT: "Fires, Floods, (De)Forestation: Application of Remote Sensing to Operational Land Cover Monitoring" (October 2003).

Department of Geography, Salem State College, Salem MA: "What is the best way to monitor land cover?" (December 2003)

Rogan, J., J. Franklin and D. Stow (2001). Operational monitoring of land cover change in California. Presented at the NASA Land Cover/ Land Use Change Annual Meeting, University of Maryland, October 28th.

Department of Arid Lands, University of Arizona (2001). Mapping and monitoring forest resources using multitemporal remote sensing data. October 5th.

Rogan, J., J. Franklin and D. Stow (2001). Operational monitoring of land cover change in California. Presented at the NASA Land Cover/ Land Use Change Annual Meeting, Bethesda, Maryland, October 16th.

Addendum

Research Experience **Clark School of Geography, Clark University**

- Primary Investigator, May 2004-present, “Massachusetts Forest Monitoring Project (MaFoMP)”. Sponsored by Clark University’s Human Environment Observatory (HERO) Program
<http://www.clarku.edu/departments/hero/research/forestchange.shtml>
- Co-Investigator, September 2003-present, Clark Labs, Worcester MA
“Analysis and interpretation of hyperspectral imagery for mapping distributions of *Fraxinus* species and emerald ash borer host trees”. Cooperative agreement between Clark University and USDA, APHIS.

Teaching Experience **Clark School of Geography, Clark University**

Geography 087: Introduction to environmental information systems -Instructor, (lectures & labs) Spring 2004, 2005

Geography 232/332: Landscape ecology-Instructor, (lectures & labs) Fall 2003, 2004

Geography 234/334: The geography of fire- Instructor, (lecture and labs) Fall 2003, 2005

Geography 293/393: Digital image processing- Instructor, (lectures & labs) Fall 2004

Geography 282/382: Advanced remote sensing- Instructor, (lectures & labs) Spring 2004, 2005

HERO Program Instructor: Spring 2004, Summer 2004, Fall 2004, Spring 2005

Refereed Journal Articles Submitted

Prah, J., **J. Rogan**, and J. Miller (submitted), A new method for mapping land cover modification using image thresholds, *International Journal of Remote Sensing*.

Sweet, S., **J. Rogan**, and R.G. Pontius (submitted), Assessing the accuracy of fire spread models. *Environmental Modelling and Software*