

Dr. Trisalyn Nelson

Director, School of Geographical Sciences and Urban Planning
University Foundation Professor
Arizona State University
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EDUCATION

- 2001–2005 **Wilfrid Laurier University**, Waterloo, Ontario
Ph.D Geography and Environmental Studies
Thesis: Spatial and spatial-temporal analysis of mountain pine beetle infestations at a landscape scale.
- 1999–2001 **University of Victoria**, Victoria, British Columbia
M.Sc. Geography
Thesis: Spatial statistical techniques for aggregating point objects extracted from high spatial resolution imagery.
- 1993–1998 **University of Victoria**, Victoria, British Columbia
B.Sc. Geography (Distinction/Honours/Co-op)
Thesis: A comparative study of an artificial neural network and maximum likelihood classification on one metre MEIS imagery, Sooke Watershed, Victoria, British Columbia.

POSITIONS

- 2016–present Director, School of Geographical Sciences and Urban Planning, Arizona State University.
- 2016–present Foundations Professor, School of Geographical Sciences and Urban Planning, Arizona State University.
- 2016–present Adjunct Professor, Department of Geography, University of Victoria
- 2015–2016 Professor, Department of Geography, University of Victoria
- 2013–2016 Director of Geomatics, University of Victoria.
- 2010–2016 Lansdowne Research Chair, Department of Geography, University of Victoria.
- 2009–2015 Associate Professor, Department of Geography, University of Victoria.
- 2005–present Director, Spatial Pattern Analysis and Research (SPAR) Lab.
- 2005–2008 Assistant Professor, Department of Geography, University of Victoria.

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AWARDS

GRANTS AWARDED

- 2016-2017 CIHR Project Scheme Bridge Funding, Impacts of City-Wide Bicycle Infrastructure Investment on Population Health & Health Equity. Co-Applicant, grant lead by Meghan Winters. \$100,000.
- 2016-2021 CIHR Team Grant: Environments and Health: Programmatic Grants in Intersectoral Prevention Research. INTERACT: INTERventions, Research, and Action in Cities Team. Co-Applicant, grant led by Y. Kestens, M. Winters, and D. Fuller. \$2,000,000.
- 2016-2019 Public Health Agency of Canada, BikeMaps.org: A citizen web-mapping surveillance tool for safe and accessible bicycling and healthy living promotion. Co-Applicant \$929,738.
- 2016-2018 NSERC CRD, Grizzly-PAW: Grizzly Population Assessment in the YelloWhead, Co-Applicant, \$1,313,337.
- 2016–2017 Capital Regional District (CRD) Healthy Living Promotion. Sole Investigator, \$8,000
- 2016 NSERC Engage. Spatial Analysis for Cycling Safety Surveillance. Industry Partner: Urban Systems. Sole Investigator, \$25,000.
- 2015–2020 University of Victoria, Lansdowne Research Chair in Spatial Science, Sole Investigator, \$150,000.
- 2015 NSERC Engage. Quantifying the safety of cycling infrastructure in Metro Vancouver. Sole Investigator. Industry Partner: Bunt and Associates. \$25,000.
- 2015 Mitacs sponsored by CAA. BikeMaps.org App Development. Sole Investigator, \$15,000.
- 2014 Hakai Institute, Tula Foundation. Spatial mapping and regionalization of Hakai Ecosystems. Sole investigator, \$8,000.
- 2014–2015 Capital Regional District (CRD) Active Transportation Special Events Funding. Citizen Web-Mapping of Bike Accidents and Near Misses. Sole Investigator. \$8,000.
- 2014–2017 Hakai Institute, Tula Foundation. Spatial Analysis of 100 Islands Biogeography. \$1.2 million (Co-applicant).

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- 2014 NSERC Engage. *Web Mapping of Bike Accidents*, Sole Investigator. Industry Partner: Canadian Automobile Association, Grant #EGP 468640-14, \$25,000.
- 2014 NSERC Engage. *Foundry Spatial Air Analytics*, Sole Investigator. Industry Partner: Foundry Spatial Ltd, Grant # EGP 468443-14, \$25,000.
- 2013 NSERC Engage. *The ESRI Canada Community Maps Program*, Sole Investigator. Industry Partner: ESRI Canada, Grant # 447069, \$25,000.
- 2013 NSERC Engage. *Mapping Unexpected Events*, Sole Investigator, Sole Investigator. \$25,000. Industry Partner: Latitude Geographics, Grant # 448511, \$25,000.
- 2013 NRCan, Pacific Forestry Centre, *Predicting climate change impacts to the Canadian boreal forest*, Sole Investigator., \$15,000.
- 2013–2018 NSERC Discovery, *New Spatial Methods for Characterizing Dynamic Environments*, Sole Investigator, Grant # 327664, \$200,000.
- 2013–2016 Foothills Research Institute, *Modeling Grizzly Bear Movement Corridors*, Principal Investigator, \$67,500.
- 2013–2015 Hakai Institute, Tula Foundation, GIS and Spatial Analysis Team. Renewed annually \$120,000/year.
- 2012–2013 NSERC Discovery, *Developing Methods for Spatial-Temporal Environmental Research*, Sole Investigator, \$27,000.
- 2011 Foothills Research Institute, *Impact of Oil and Gas Wells on Spatial-Temporal Patterns of Grizzly Bear Habitat Use*, Principal Investigator, \$20,000
- 2011–2014 SSHRC Insight Development Grant, Canada Food Security. Co-Investigator, \$92,400
- 2011–2013 SSHRC Insight Development Grant, Geovisualization and uncertainty analysis of volunteered geographic information, Investigator, \$65,000.
- 2011–2012 GEOIDE, *Geomatics Solutions for Conservation of Canada's Forests*, Principal Investigator, \$150,000.
- 2010–2015 University of Victoria, Lansdowne Research Chair in Spatial Science, Sole Investigator, \$150,000.

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- 2010–2014 CFI Operating Fund, *Spatial Pattern Analysis and Research (SPAR) Lab*, Sole Applicant, \$15,048.
- 2010–2013 British Columbia Innovation Council, Natural Resources and Applied Science Endowment Fund, *Development of BC-wide Biodiversity Indicators using Earth Observation Data*, Co-Investigator, \$287,500
- 2010–2012 The Canadian International Food Security Research Fund, International Development Research Centre, Canadian International Development Agency, *Social Learning in Rural Aquaculture to Break the Cycle of Poverty, Food Insecurity, and Unsustainable Practices in Sri Lanka*, Investigator, \$923,230.
- 2010–2012 Ivey Foundation, *Development of pan-boreal indicators of environmental diversity for assessing current protected area representativeness and future protection initiatives*, Co-Investigator, \$100,000.
- 2010 Environment Canada, *Methods for Delineating Homogenous Climate and Hydrological Regions in the McKenzie Basin*, Principal Investigator, \$16,500.
- 2009–2012 Foothills Research Institute, *Geomatics for Grizzly Bear Research*, Investigator, \$250,000.
- 2009–2011 GEOIDE, *Multi-Sensors Systems for Tracking and Mobility Applications*, Investigator, \$233,000.
- 2009–2010 MITACS, *Near Shore Change Detection*, Principal Investigator, \$30,000.
- 2009 British Columbia Ministry of Environment, *Mapping Change in Marbled Murrelet Nesting Habitat*, Principal Investigator, \$23,000.
- 2008 GEOIDE Pilot, *Multi-Sensors Systems for Tracking and Mobility Applications*, Investigator, \$50,000.
- 2007–2009 Mountain Pine Beetle Program, *Decision Support for Managing Wildlife Habitat in Mountain Pine Beetle Impacted Ecosystems*, Principal Investigator, \$183,300.
- 2006–2012 NSERC Discovery Grant, *Spatial and Spatial-Temporal Change in the Natural Environment*, Sole Applicant, \$78,000. (Extended one year due to maternity leave.)
- 2006–2011 British Columbia Knowledge Development Fund, *Canada's Centre for Spatial Data Integration (renamed Spatial Pattern Analysis and Research (SPAR) Lab)*, Sole Applicant, \$79,926.

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- 2006–2011 CFI New Opportunities Fund, *Canada’s Centre for Spatial Data Integration (renamed Spatial Pattern Analysis and Research (SPAR) Lab)*, Sole Applicant, \$79,926.
- 2006–2010 Sri Lanka CIHR/IDRC, *Developing Veterinary Public Health Capacity in Low and Middle Income Countries: A Critical Need for Emerging Zoonotic Disease Preparedness*, Investigator, \$1.4 million.
- 2006–2008 Mountain Pine Beetle Initiative, *Provincial Scale Mapping of Post Beetle Forest Structure and Composition*, Principal Investigator, \$250,000.
- 2006–2008 Mountain Pine Beetle Initiative, *Determining Year of Death and Nature of Recovery Using a Time Series Analysis of Remotely Sensed Data*, Investigator, \$329,493.
- 2004–2006 Mountain Pine Beetle Initiative, *A Landscape Level, Spatial Investigation of the Response of Mountain Pine Beetle Populations to Treatment*, Co-Applicant, \$185,000.
- 2003–2007 Mountain Pine Beetle Initiative, *Spatial-Temporal Analysis of Mountain Pine Beetle Infestations to Characterize Pattern, Risk, and Spread at the Landscape Level*, Co-Applicant, \$572,000.
- 2001–2003 GEOIDE Student’s Network, *Students of Spatial Statistics*, Principle Applicant, \$4,000.

Awards and Scholarships

- 2017 Ecological Society of America’s Cooper Award for Outstanding Publication (for Trant et al. 2016)
- 2017 BikeMaps.org, HUB Bicycle Innovation Award
- 2016-2021 Foundation Professor, Arizona State
- 2015–2020 Lansdowne Research Chair in Spatial Sciences, renewal
- 2015 Nominated for the Vancouver Island Top 20 under 40
- 2012 Research Excellence Award, Faculty of Social Sciences, UVic
- 2010–2015 Lansdowne Research Chair in Spatial Sciences
- 2004 Pacific Forestry Centre Graduate Student Award (September)
- 2004 Pacific Forestry Centre Graduate Student Award (January)
- 2003–2004 Wilfrid Laurier University Scholarship Supplement
- 2003–2004 Ontario Graduate Scholarship
- 2003–2004 Wilfrid Laurier University Incentive Scholarship
- 2002–2003 Wilfrid Laurier University Scholarship Supplement
- 2001–2004 Wilfrid Laurier University Entrance Scholarship
- 2001–2003 NSERC PGS B Scholarship
- 2001–2003 Canadian Forest Service NSERC Supplement

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2001–2002 GEOIDE NSERC Supplement
2001 GEOIDE Student’s Network: Network Contribution
1999–2000 University of Victoria Graduate Fellowship
1998 University of Victoria: Chapman Memorial Scholarship

GRADATE STUDENT SUPERVISION

2016–2018 Ferster, C. **BikeMaps.org**. Post-Doctoral Fellow. University of Victoria

2015–2017 Nijland, W. **Spatial Analysis of 100 Islands**. Post-Doctoral Fellow. Hakai Research Institute.

2015 Boss, D. **Spatial analysis of cycling incidents in the CRD**. MSc. Student. University of Victoria. Department of Geography.

2014–2016 Harvey, G. **Marine Mammal Species Distributions**. MSc. University of Victoria. Department of Geography.

2014–2016 Jestico, B. **Spatial Analysis of Bike Collisions, Near Misses, Thefts and Hazards in the CRD**. MSc. University of Victoria. Department of Geography.

2013 Bourbonnais, M. **Spatial Analysis of Wildlife Movement**. PhD Candidate. University of Victoria. Department of Geography.

2013–2015 Branion-Calles, M. **Spatial analysis of health indicators and radon gas in British Columbia**. MSc. University of Victoria. Department of Geography.

2013–2015 Kite, R. **Intra-annual grizzly bear habitat selection**. MSc. University of Victoria. Department of Geography.

2012–2013 Perez, L. **Forecasting Canada’s Agricultural Yields**. Post-Doctoral Fellow. University of Victoria. Department of Geography.

2012– Fitterer, J. **Spatial analysis of alcohol outlet density and violence in British Columbia**. PhD Candidate. University of Victoria. Department of Geography.

2012–2013 Suarez, C. **Spatial Neighbourhoods in Coastal Spatial Analysis**. MSc. University of Victoria. Department of Geography.

2012–2015 Thompson, S. **Mapping and monitoring indicators of terrestrial biodiversity with remote sensing**. PhD. University of Victoria. Department of Geography.

2011–2013 Bourbonnais, M. **Spatial Patterns of Grizzly Bears**. MSc. University of Victoria. Department of Geography.

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- 2011–2012 Holmes, K. **Biodiversity and Climate Change**. MSc. University of Victoria. Department of Geography.
- 2011–2012 Perez, L. **Boreal Forest Biodiversity**. Post-Doctoral Fellow. University of Victoria. Department of Geography.
- 2010–2012 Fitterer, J. **Biodiversity Mapping for British Columbia**. MSc. University of Victoria. Department of Geography.
- 2009–2013 Long, J. **Quantitative Measures of Mobility Data Sets**. PhD. University of Victoria. Department of Geography.
- 2009–2011 Morrison, K. **Spatial Analysis of British Columbia’s Food Self Sufficiency**. MSc. University of Victoria. Department of Geography.
- 2009–2011 Stewart, B. **Grizzly Bear’s Interaction with Habitat Edge**. MSc. University of Victoria. Department of Geography.
- 2008–2010 Gralewicz, N. **Spatial-Temporal Trends of Canadian Forest Fires**. MSc. University of Victoria. Department of Geography.
- 2007–2009 Long, J. **Quantifying Change in the Spatial Pattern of Forests: Assessing Impacts of Mountain Pine Beetle Infestation and Harvest**. MSc. University of Victoria. Department of Geography.
- 2007–2009 Smulders, M. **Spatial-Temporal Analysis of Grizzly-Bear Habitat Use**. MSc. University of Victoria. Department of Geography.
- 2007–2010 Robertson, C. **Spatial Detection of Emerging Zoonotic Disease**. PhD. University of Victoria. Department of Geography.
- 2006–2008 Farmer, C. **Spatial Time-Series Analysis of Satellite Derived Snow Water Equivalence**. MSc. University of Victoria. Department of Geography.
- 2005–2007 Mackenzie, Ian. **The Effect of Directionality and Anisotropy on a Local Measure of Spatial Autocorrelation- the G_i^*** . MSc. University of Victoria. Department of Geography.
- 2005–2007 Robertson, C. **Spatial Temporal Analysis of Moving Polygons**. MSc. University of Victoria. Department of Geography.

REFERRED PUBLICATIONS

PUBLISHED or ACCEPTED

Adams, M., Service, C., Bateman, A., Bourbonnais, M., Artelle, K., Nelson, T., Paquet, P., Levi, T., and Darimont, C. (2017). **Intrapopulation isotopic niche diversity over landscapes; spatial patterns inform conservation of bear-salmon systems.** *Ecosphere*. 8(6).

Bourbonnais, M.L., Nelson, T.A., Stenhouse, G.B., Wulder, M.A., White, J.C., Hobart, G.W., Hermosilla, T., Coops, N.C., Nathoo, F. and Darimont, C. 2017. **Characterizing spatial-temporal patterns of landscape disturbance and recovery in western Alberta, Canada using a functional data analysis approach and remotely sensed data.** *Ecological Informatics*.

Branion-Calles, M.C., Nelson, T.A., and Martin, G. (2017). **Adjusting local alcohol consumption data for influence of tourists.** *Journal of Substance Use*. 22(1): 11-19.

Branion-Calles, M., Nelson, T.A., and Winters, M. (2017). **Comparing Crowdsourced Near Miss and Collision Cycling Data and Official Bike Safety Reporting.** *Transportation Research Record: Journal of the Transportation Research Board*. No. 17-03486.

Ferster, C.J., Nelson, T.A., Winters, M., and Laberee, K. (Conditionally Accepted). **Geographic age and gender representation in volunteered cycling safety data: A case study of BikeMaps.org.** *Applied Geography*.

Ferster, C.J., Nelson, T.A., Laberee, K., Vanlaar, W., and Winters, M. 2017. **Promoting Crowdsourcing for Urban Research: Cycling Safety Citizen Science in Four Cities.** *Urban Science*. 1(2): 21.

Finnis, S., Krstic, N., McIntyre, L., Nelson, T.A., Henderson, S.B. (2017) **Spatiotemporal patterns of paralytic shellfish toxins and their relationships with environmental variables in British Columbia, Canada from 2002 to 2012.** *Environmental Research*. 156: 190-200.

Fitterer, J.L, Nelson, T.A., Stockwell, T. (2017) **The positive effects of increased foot patrols on the incidence of liquor infractions and assaults in the Granville Street Entertainment Area of Vancouver British Columbia Canada.** *Applied Geography*. 87: 97-105.

Harvey, G., Nelson, T.A, Fox, C., Pauquet, P. (2017) **Quantifying marine mammal hotspots in British Columbia, Canada.** *Ecosphere* 8(7):1-22.

Jestico, B., Nelson, T.A., Potter, J., Winters, M. (2017). **Multiuse trail intersection safety analysis: A crowdsourced data perspective.** *Accident Analysis and Prevention*. 103: 65-71.

Konzack, M., McKetterick, T., Ophelders, T., Buchin, M., Giuggioli, L., Long, J., Nelson, T., Westenberg, M.A., and Buchin, K. (2017). **Visual analytics of delays and interaction in**

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movement data. International Journal of Geographical Information Science. 31(2): 320–345.
<http://dx.doi.org/10.1080/13658816.2016.1199806>

Robertson, C., Long, J., Nelson, T.A. (Accepted) **stampr: Spatial-Temporal Analysis of Moving Polygons in R.** Journal of Statistical Software.

Thompson, S.D., Nelson, T.A., Wulder, M.A., and Coops, N.C. (2017) **Global spatial-temporal variability in terrestrial productivity and phenology regimes between 2000 and 2012.** Annals of the American Association of Geographers. 1-19.

Branion-Calles, M.C., Nelson, T.A., and Henderson, S.B. (2016). **A geospatial approach to the prediction of indoor radon vulnerability in British Columbia, Canada.** Journal of Exposure Science and Environmental Epidemiology. Doi: 10.1038/jes.2015.20

Brown, N.D., Nelson, T., Wulder, M.A., Coops, N.C., Hilker, T., Bater, C.W., Gaulton, R. and Stenhouse, G.B. (2016). **An Approach for Determining Relationships Between Disturbance and Habitat Selection Using Bi-weekly Synthetic Images and Telemetry Data.** In Multitemporal Remote Sensing (pp. 341-356). Springer International Publishing.

Jestico, B., Nelson, T.A., and Winters, M. (2016). **Mapping ridership with crowdsourced cycling data.** Journal of Transport Geography. 52: 90-97 doi:10.1016/j.jtrangeo.2016.03.006

Kite, R., Nelson, T.A., Stenhouse, G., and Darimont, C. (2016). **A movement-driven approach to quantifying grizzly bear (*Ursus arctos*) near-road movement patterns in west-central Alberta, Canada.** Biological Conservation. 195: 24-32. Doi: 10.1016/j.biocon.2015.12.020.

Nijland, W., Reshitnyk, L. Y., Starzomski, B. M., Reynolds, J. D., Darimont, C. T., and Nelson, T. A. (2016). **Deriving Rich Coastal Morphology and Shore Zone Classification from LIDAR Terrain Models.** *Journal of Coastal Research*.
doi: <http://dx.doi.org/10.2112/JCOASTRES-D-16-00109.1>

Perez, L., Nelson, T.A., Coops, N.C., Fontana F., and Drever C.R. (2016). **Characterization of spatial relationships between three remotely sensed indirect indicators of biodiversity and climate: a 21 years' data series review across the Canadian boreal forest.** International Journal of Digital Earth. doi:10.1080/17538947.2015.1116623

Powers, R.P., Coops, N.C., Nelson, T.A. and Wulder, M.A. (2016). **Evaluating natural reserve design efficacy in the Canadian Boreal forest using time series AVHRR data.** Canadian Journal of Remote Sensing. Vol. 42, No. 3, pp. 171-189. DOI:
<http://dx.doi.org/10.1080/07038992.2016.1171065>

Powers, R.P., Coops, N.C., Tulloch, V.J., Gergel, S.E., Nelson, T.A. and Wulder, M.A. (2016). **A conservation assessment of Canada's boreal forest incorporating alternate climate change scenarios.** Remote Sensing in Ecology and Conservation. Dec 1.

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Thompson, S.D., Nelson, T.A., Giesbrecht, I., Frazer, G., and Saunders, S.C. (2016). **Data-driven regionalization of forested and non-forested ecosystems in coastal British Columbia with LiDAR and RapidEye imagery.** *Applied Geography* 69: 35-50.

[doi:10.1016/j.apgeog.2016.02.002](https://doi.org/10.1016/j.apgeog.2016.02.002)

Trant, A.J., Nijland, W., Hoffman, K.M., Mathews, D.L., McLaren, D., Nelson, T.A., Strazomski, B.M. (2016). **Intertidal resource use over millennia enhances forest productivity.** *Nature Communication*. 7:12491 doi: 10.1038/ncomms12491. (Ecological Society of America – Cooper Award for outstanding publication)

Andrew, M.E., Wulder, M.A., Nelson, T.A., and Coops, N.C. (2015). **Spatial data, analysis approaches, and information needs for spatial ecosystem service assessments: A review.** *GIScience & Remote Sensing*. 52(3): 344–373.

Branion-Calles, M.C., Nelson, T.A., and Henderson, S.B. (2015). **Evaluation of different radon guideline values based on characterization of ecological risk and visualization of lung cancer mortality trends in British Columbia, Canada.** *BMC Public Health* 15:1144.

DOI: 10.1186/s12889-015-2438-2

Brooks, R., Nelson, T.A., Amolins, K., and Hall, G.B. (2015). **Semi-automated building footprint extraction from orthophotos.** *Geomatica*. 69(2): 231–244.

Fitterer, J. and Nelson, T.A. (2015). **A systematic review of the statistical methods used to study alcohol-attributable crime.** *PLOS One*. DOI: 10.1371/journal.pone.0139344. Sept 29, 2015.

Fitterer, J., Nelson, T.A., and Nathoo, F.S. (2015). **Predictive crime mapping.** *Police Practice and Research*. 16(2): 121–135. DOI:10.1080/15614263.2014.972618.

Fitterer, J.L., Nelson, T.A., and Stockwell, T. (2015). **A review of existing studies reporting the negative effects of alcohol access and positive effects of alcohol control policies on interpersonal violence.** *Frontiers in Public Health*. 16. DOI 10.3389/fpubh.2015.00253

Holmes, K.R., Coops, N.C., Nelson, T.A., Fontana, F., and Wulder, M.A. (2015) **Indicators of vegetation productivity under a changing climate in British Columbia, Canada.** *Applied Geography*. 56: 135–144.

Lawrence, H., Robertson, C., Feick, R. and Nelson, T.A. (2015). **Identifying optimal study areas and spatial aggregation units for point-based VGI from multiple sources.** *Advances in Spatial Data Handling and Analysis. Select Papers from the 16th Symposium on Spatial Data Handling*. F.Harvey & Y. Leung, eds. Springer International Publishing. Heidelberg. pp: 65–84.

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Long, J.A., Nelson, T.A. (2015) **Home range and habitat analysis using dynamic time geography**. *Journal of Wildlife Management*. 79(3):481–490. DOI: 10.1002/jwmg.845

Long, J.A., Webb, S.L., Nelson, T.A., and Gee, K.L. (2015). **Mapping areas of spatial-temporal overlap from wildlife tracking data**. *Movement Ecology*. 3:38. doi:10.1186/s40462-015-0064-3

Nelson, T.A. (2015). **Book Review of Statistical Analysis of Spatial and Spatio-Temporal Point Patterns by P.J. Diggle**. *International Journal of Geographical Information Science*. 29(4): 690-691.

Nelson, T.A., Denouden, T., Jestico, B., Laberee, K., and Winters, M. (2015). **BikeMaps.org: a global tool for collision and near miss mapping**. *Frontiers in Public Health*.doi:10.3389/fpubh.00053.

Nelson, T.A., Long, J.A., Laberee, K., and Stewart, B.P. (2015). **A time geographic approach for delineating areas of sustained wildlife use**. *Annals of GIS*. 21(1): 81–90.

Perez, L., Nelson, T.A., Bourbonnais, M., and Ostry, A. (2015). **Modelling the Potential Impact of Climate Change on Agricultural Production in the Province of British Columbia**. *Energy and Environment Research*. 5(1): 45–62. DOI:10.5539/eer.v5n1p49-62

Sorensen, A.A., Stenhouse, G.B., Bourbonnais, M.L., and Nelson, T.A. (2015). **Effects of habitat quality and anthropogenic disturbance on grizzly bear (*Ursus arctos horribilis*) home range fidelity**. *Canadian Journal of Zoology*. 93(11): 857-865. doi: 10.1139/cjz-2015-0095.

Suarez, C., Nelson, T.A., and Laberee, K. (2015). **Cosine: A tool for constraining spatial neighbourhoods in marine environments**. *Geomatica*. 69(1): 95–111.

Thompson, S.D., Nelson, T.A., White, J.C., and Wulder, M.A. (2015). **Mapping dominant tree species over large forested areas using Landsat best-available-pixel image composites**. *Canadian Journal of Remote Sensing*. 41(3): 203-218.
<http://www.tandfonline.com/doi/full/10.1080/07038992.2015.1065708>

Andrew, M.E., Wulder, M., and Nelson, T.A. (2014). **Potential contributions of remote sensing to ecosystem service assessments**. *Progress in Physical Geography*. 38(3): 328–352. doi:10.1177/0309133314528942.

Bourbonnais, M.L., Nelson, T.A., and Wulder, M.A. (2014) **Geographic analysis of the impacts of mountain pine beetle infestation on forest fire ignition**. *The Canadian Geographer*. 58(2): 188–202. DOI: 10.1111/j.1541-0064.2013.12057.x

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Bourbonnais, M.L., Nelson, T.A., Cattet, M.R.L., Darimont, C.T., Stenhouse, G.B., and Janz, D.M. (2014). **Environmental factors and habitat use influence body condition of individuals in a species at risk, the grizzly bear.** *Conservation Physiology*. Doi: 10.1093/conphys/cou043

Coops, N.C., Fontana, F., Harvey, G., Nelson, T.A., and Wulder, M.A (2014). **Monitoring national-scale indirect indicators of biodiversity using a long time-series of remotely sensed imagery.** *Canadian Journal of Remote Sensing*. 40(3): 179–191.

Laberee, K., Stewart, B.P., Nelson, T.A., McKay, T, and Stenhouse, G.B. (2014). **Oil and gas infrastructure and the spatial pattern of grizzly bear habitat selection in Alberta, Canada.** *The Canadian Geographer*. 58(1): 79–94. DOI: 10.1111/cag.12066

Long, J.A., Nelson, T.A., and Nathoo, F.S. (2014). **Towards a kinetic-based probabilistic time geography.** *International Journal of Geographical Information Science*. 28(5): 855–874.

Long, J.A., Nelson, T.A., Webb, S.L., and Gee, K.L. (2014). **A critical examination of indices of dynamic interaction for wildlife telemetry studies.** *Journal of Animal Ecology*. 83(5): 1216–1233. DOI: 10.1111/1365-2656.12198.

Nelson, T.A., Coops, N.C., Wulder, M.A., Perez, L., Fitterer, J., Powers, R., and Fontana, F. (2014). **Predicting climate change impacts to the Canadian boreal forest.** *Diversity* 6: 133–157.

Rickbeil, G.M., Coops, N.C., Drever, M.C., and Nelson, T.A. (2014). **Assessing coastal species distribution models through the integration of terrestrial, oceanic and atmospheric data.** *Journal of Biogeography*. 41(8): 1614–1625. doi/10.1111/jbi.12340/abstract

Rickbeil, G., Coops, N.C., Andrew, M.E., Bolton, D.K., Mahoney, N., and Nelson, T.A., (2014) **Assessing conservation regionalization schemes: Employing a beta diversity metric to test the environmental surrogacy approach.** *Diversity and Distributions*. 20: 503–514.

Robertson, C., and Nelson, T.A. (2014). **An overview of spatial analysis of emerging infectious diseases.** *The Professional Geographer*. 66(4): 579-588. DOI: 10.1080/00330124.2014.907702

Robertson, C., Long, J.A., Nathoo, F.S., Nelson, T.A., and Plouffe, C.C.F. (2014). **Assessing quality of spatial models using the structural similarity index and posterior predictive checks.** *Geographical Analysis*. 46(1): 53–74.

White, C.F.H., Coops, N.C., Nijland, W., Hilker, T., Nelson, T.A., Wulder, M.A., Nielsen, S.E., Stenhouse, G. (2014) **Characterizing a decade of disturbance events using Landsat and MODIS satellite imagery in western Alberta, Canada for grizzly bear management.** *Canadian Journal of Remote Sensing*. 40(5): 336–347.
[dx.doi.org/10.1080/07038992.2014.987082](https://doi.org/10.1080/07038992.2014.987082)

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Andrew, M.E., Nelson, T.A., Wulder, M.A., Hobart, G.W., Coops, N.C., and Farmer, C.J.Q. (2013). **Ecosystem classifications based on summer and winter conditions**. *Environmental Monitoring and Assessment*. 185(4): 3057–3079.

Bone, C., White, J.C., Wulder, M.A., Robertson, C., Nelson, T.A. (2013.) **Impact of forest fragmentation on patterns of mountain pine beetle-caused tree mortality**. *Forests*. 4(2) 279–295.

Bone, C., Wulder, M.A., White, J., Robertson, C., and Nelson, T.A. (2013) **A GIS-based risk rating of forest insect outbreaks using aerial overview surveys and the local Moran's I statistic**. *Applied Geography* 40: 161–170.

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Harvey, G., Nelson, T.A., Paquet, P., and Fox, C. (2015). **Towards improved methods for modeling marine mammal distributions and densities to support coastal conservation.** Canadian Association of Geographers Annual Meeting, Burnaby, BC, June 1–5, 2015. *Winner Best Student Presentation.*

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Kite, R.O., Nelson, T.A., Stenhouse, G., and Darimont, C. (2015). **Linking grizzly bear (*Ursus arctos*) near-road movement patterns to mortality and survival.** AAG Annual meeting. Chicago, IL. April 21–25, 2015.

Kite, R., Nelson, N., Stenhouse, G., and Darimont, C. 2015. **Review of R packages for animal movement.** Canadian Association of Geographers Annual Meeting, Burnaby, BC, June 1–5, 2015.

Jestico, B., and Nelson, T.A. (2015). **Assessment of STRAVA.com data as a tool for mapping ridership.** Canadian Association of Geographers AGM. June 1–5, 2015. Burnaby, BC.

Nelson, T.A., Denouden, T., Jestico, B., Laberee, K., Winters, M. (2015) **Crowd Source Data on Cycling Safety.** ITE Quad Conference. Vancouver, BC May1–2, 2015.

Nelson, T.A., Denouden, T., Jestico, B., and Laberee, K., (2015). **BikeMaps: a citizen science web-map for cycling safety.** AAG Annual meeting. Chicago, IL. April 21–25, 2015.

Nelson, T.A., Denouden, T., Jestico, B., and Laberee, K., (2015). **BikeMaps: a citizen science web-map for cycling safety.** Canadian Association of Geographers AGM. June 1–5, 2015. Burnaby, BC.

Bourbonnais, M.L., Nelson, T.A., Cattet, M.R.L., Darimont, C.T., and Stenhouse, G.B. (2014). **Spatial analysis of factors influencing long-term stress in the grizzly bear (*Ursus arctos*) population of Alberta, Canada.** Western Division of the Canadian Association of Geographers, March 7–8, 2014, Victoria, British Columbia.

Bourbonnais M.L., and Nelson T.A. (2014). **Quantifying and predicting wildlife movement - A state of the knowledge review.** Spatial Knowledge and Information Canada, February 7–9, 2014, Banff, Alberta. *Winner – Student Presentation Award.*

Branion-Calles, M., Nelson, T.A., and Henderson, S. (2014). **Integrating Residential Radon Surveys in British Columbia.** Spatial Knowledge and Information Canada, February 7–9, 2014, Banff, Alberta.

Branion-Calles, M., Nelson, T.A., and Henderson, S. (2014). **Conflating residential radon surveys and mapping the spatial variation in indoor radon levels in British Columbia.** Annual meeting of the Western Division of the Canadian Association of Geographers. March 7–9, Victoria, BC.

Fitterer, J., Kinniburgh, S., Nathoo, F., & Nelson, T. (2014). **Forecasting Break and Entries across Vancouver, British Columbia, Canada.** Annual meeting of the Western Division of the Canadian Association of Geographers. March 7–9; Victoria, BC. Regional Conference. Presentation.

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Jestico, B., and Nelson, T.A. (2014). **Optimal Evacuation Route Planning for Schools in Oak Bay**. Annual meeting of the Western Division of the Canadian Association of Geographers. March 7–9; Victoria, BC. Regional Conference. Presentation.

Kite, R., Nelson, T.A., and Stenhouse, G.B. (2014). **Quantifying the effects of linear disturbance features on wildlife movement patterns**. Western Division of the Canadian Association of Geographers, March 7–8, 2014, Victoria, British Columbia.

Kite, R., Nelson, T.A., and Stenhouse, G.B. (2014). **Quantifying changes in local movement patterns relative to landscape modification**. Spatial Knowledge and Information (SKI) – Canada, Feb 7–9 2014, Banff, AB, Canada.

Nelson, T.A. (2014). BikeMaps.org: A new tool for safe cycling. BC Cycling Coalition Annual Meeting. Victoria, BC. October 18, 2014.

Thompson, S.D., Nelson, T.A., Coops, N.C., Wulder, M.A., and Lantz, T.C. (2014) **Spatio-temporal dynamics of global ecosystem productivity**. Oral Presentation. Western Division of the Canadian Association of Geographers, March 7–8, 2014, Victoria, British Columbia

Thompson, S.D., Nelson, T.A., Coops, N.C., Wulder, M.A., and Lantz, T.C. (2014) **Spatial and Temporal Variability of Global Ecosystem Functional Types**. Oral Presentation. Spatial Knowledge and Information (SKI) – Canada, Feb 7–9 2014, Banff, AB, Canada

Brooks, R. and Nelson, T.A. (2013) **A semi-automated approach to building footprint extraction**. Esri User Conference. November 13-14, Vancouver, B.C.

Long, J.A., Nelson, T.A., and Nathoo, F.S. (2013) **A kinetic-based probabilistic space-time prism**. Annual meeting of the Association of American Geographers (AAG). Apr. 9-13; Los Angeles, CA.

Nelson, T.A. (2013) **Movement research: SPAR Lab, COST, and beyond**. September 30-October 1. ICO903 MOVE Final Conference, Vienna, Austria (Invited Keynote).

Nelson, T.A. (2013) **Using GIS to model space-time habitat selection patterns of female grizzly bears**. Esri User Conference. November 13-14, Vancouver, B.C.

Bourbonnais, M.L., Nelson, T.A., and Wulder, M.A. (2012). **Mountain pine beetle and forest fire dynamics—characterizing change in fire size**. Annual Meeting of the American Association of Geographers (AAG). February 23-28, New York, NY.

Fitterer, J.L., Nelson, T.A., Wulder, M.A., Coops, N.C. and Mahony, N. (2012). **Predicting Avian Species Richness and Guilds Using Landscape-Scale Indices in British Columbia**,

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Canada. Annual Meeting of the American Association of Geographers (AAG). February 23-28, New York, NY.

Fitterer, J.L., Nelson, T.A., Wulder, M.A., Coops, N.C. and Mahony, N.A. (2012). **Predicting Avian Species Richness Using Landscape-Scale Indices in British Columbia, Canada.** Fifth North American Ornithological Conference (NAOC-V). August 14th-18th, Vancouver, BC. (Poster)

Holmes, K.R., Nelson, T.A., Coops, N.C., and Wulder, M.A. (2012). **Forecasting Change in Biodiversity Across British Columbia due to Climate Change: An Indirect Indicator Approach.** Annual Meeting of the American Association of Geographers (AAG). February 23-28, New York, NY.

Long, J.A., and Nelson, T.A. (2012) **Measuring dynamic interaction patterns in movement data.** Annual Meeting of the Canadian Association of Geographers (CAG). May 28 – Jun 1, Waterloo, Ontario. (GIScience Study Group Award for Best Student Presentation.)

Long, JA, Nelson, TA, and Nathoo, FS. (2012). **Towards a momentum based probabilistic time geography.** Annual Meeting of the American Association of Geographers (AAG). February 23-28, New York, NY.

Powers, R.P., Coops, N.C., Morgan, J.L., Wulder, M.A., Nelson, T.A., Drever, C.R., and Cumming, S.G. (2012). **A regionalization and biodiversity assessment of the Canadian boreal forest using remote sensing.** IUFRO 2012. University College Cork, Ireland. August 28-31, 2012.

Perez, L., Nelson, T.A., Coops, N.C., and Fontana, F. (2011). **Combining Earth Observation Data and Spatial Statistical Analysis to Assess Biodiversity and Climate Relationships: A Study of the Canadian Boreal Forest.** Geomatic Week 2011, August 8-12, Bogota, Colombia.

Fitterer, J.L., Nelson, T.A., Coops, N.C., and Wulder, M.A. (2011). **Modelling Ecosystem Diversity of British Columbia Using Earth Observation Data and Terrain Indices.** 7th international, interdisciplinary conference on spatial statistics and geomedial systems (GEOMED). October 20–22, Victoria, BC.

Fitterer, J., Nelson, T., Wulder, M., and Coops, N. (2011). **Broad-scale monitoring of British Columbia's biodiversity.** Annual Meeting of the American Association of Geographers (AAG). April 12–16, Seattle, WA.

Holmes, K.R., Nelson, T.A., Coops, N., and Wulder, M.A. (2011). **Literature review: studies linking climate change scenarios to biodiversity and species data in order to protect future distributions.** Annual Meeting of the American Association of Geographers (AAG). April 12–16, Seattle, WA.

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Holmes, K.R., Nelson, T.A., Coops, N., and Wulder, M.A. (2011). **Literature review: studies linking climate change scenarios to biodiversity and species data in order to protect future distributions.** Spatial Knowledge and Information Canada. March 4–6, Fernie, BC.

Morrison, K., Nelson, T., and Ostry A. (2011). **Mapping and Modeling Local Food Self-Sufficiency.** Annual Meeting of the American Association of Geographers (AAG). April 12–16, Seattle, WA.

Morrison, K., Nelson, T., and Ostry, A. (2011). **Application of Bayesian spatial smoothing models to assess local food self-sufficiency.** Spatial Knowledge and Information Canada. March 4–6, Fernie, BC.

Long, J.A., and Nelson, T.A. (2011) **Advances in wildlife telemetry data: An opportunity for space-time geography.** Annual Meeting of the American Association of Geographers (AAG). April 12–16, Seattle, WA.

Long, J.A., and Nelson, T.A. (2011) **Sports, time geography, and mobility data.** Spatial Knowledge and Information Canada. March 4–6, Fernie, BC. *Winner Student Presentation Award.*

Long, J., and Nelson, T.A. (2011). **An interaction statistic for mobility data.** Geomatics Canada Conference. May 16–17, Toronto, ON. (Poster).

Nelson, T.A. and Robertson, C. (2011) **Defining spatial weights matrices in ecological research.** Geocomputation. July 19-22, University College London, UK.

Stewart, B., Nelson, T.A., and Wulder, M.A. (2011) **The effects of edges on grizzly bear habitat selection.** Spatial Knowledge and Information Canada. March 4–6, Fernie, BC.

Stewart, B., Nelson, T.A., and Wulder, M.A. (2011). **The effects of edges on grizzly bear habitat selection.** Annual Meeting of the American Association of Geographers (AAG). April 12–16, Seattle, WA.

Thériault, M., Long, J., Nelson, T.A., Dieumegarde, L., and Kestens, K. (2011) **Analyzing GPS traces for detecting transportation modes and mobility patterns.** Geomatics Canada

Gralewicz, N., Nelson, T.A., and M.A. Wulder. (2010) **Sounding the alarm: Fire occurrence prediction in Canada.** NICDS Workshop on Statistical Methods for Geographic and Spatial Data in the Management of Natural Resources. March 3–5, Montreal, QC.

Long, J.A., and Nelson, T.A. (2010) **Time geography and animal home ranges.** Geomatics Canada Conference. June 15–18, Calgary, AB.

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Long, J.A., Robertson, C., Nelson, T.A., and Nathoo, F. (2010) **Modeling spread of mountain pine beetle in Western Canada**. Geomatics Canada Conference. June 15–18, Calgary, AB.

Long, J.A., Robertson, C., Nathoo, F., and Nelson, T.A. (2010) **Bayesian forecasting of ecological range expansion: The case of the mountain pine beetle**. NICDS Workshop on Statistical Methods for Geographic and Spatial Data in the Management of Natural Resources. March 3–5, Montreal, QC.

Morrison K, Nelson T.A., and Ostry A. (2010). **Nutritional health & food security in British Columbia: assessing local food self-sufficiency**. 11th World Congress on Environment & Health; International Federation of Environmental Health. September 6, Vancouver, BC.

Morrison K, Nelson T.A., and Ostry A. (2010). **Nutritional health & food security in British Columbia: assessing local food self-sufficiency**. Canadian Public Health Association. June 13–16, Toronto, ON.

Morrison K, Nelson T.A., and Ostry A. (2010). **Spatial analysis of local food systems in British Columbia**. Canadian Association of Food Studies. May 30. Montreal, QC.

Morrison K, Nelson T.A., and Ostry A. (2010). **Spatial analysis of local food systems in British Columbia**. Association of American Geographers. April 16, 2010. Washington, DC.

Robertson, C., Nelson, T.A., MacNab, Y.C., and Lawson, A.B. (2010). **Review of methods for space-time disease surveillance**. NICDS Workshop on Statistical Methods for Geographic and Spatial Data in the Management of Natural Resources. March 3–5, Montreal, QC.

Gralewicz, N., Nelson, T.A. and Wulder, M.A. (2009). **Spatial analysis of wildfire in Canada, 1930 - 2007**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Long, J., Nelson, T.A., and Wulder, M.A. (2009). **Quantifying forest composition and configuration following insect infestation and mitigation**. Annual Meeting of the American Association of Geographers, March 22–27, Las Vegas, NV.

Long, J.A. and Nelson, T.A. (2009) **A decision framework for local indicators for categorical data (LICD)**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Nelson, T.A. and Getis, A. (2009) **Trends in spatial analysis**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Nelson, T.A., Duffus, D., Robertson, C. Laberee, K., and Feyrer, L.J. (2009) **Spatial analysis of marine mammals**. 10th International Coastal Symposium. April 13-18, Lisbon, Portugal.

Nelson, T. A. (2009). **Trends in spatial analysis**. Annual Meeting of the American Association of Geographers, March 22–27, Las Vegas, NV.

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Robertson, C., Sawford, K., Stephen, C., Daniel, S.L.A., and Nelson, T.A. (2009) **Infectious Disease Surveillance and Analysis - Sri Lanka**. GEOMED 2009. November 14–16, Charleston, SC. (poster).

Robertson, C., Farmer, C.J.Q., Nelson, T.A., Mackenzie, I.K., Wulder, M.A., and White, J.C. (2009). **Assessing compositional change in pine forests of British Columbia during a mountain pine beetle epidemic**. Annual Meeting of the American Association of Geographers, March 22–27, Las Vegas, NV.

Robertson, C., Wulder, M.A., Nelson, T.A., and White, J.C. (2009) **The effect of landscape pattern on mountain pine beetle spread**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Smulders, M., Nelson, T.A., Nielsen, S. E., and Stenhouse, G. (2009) **Examining the spatial-temporal patterns of female grizzly bear home range use**. Annual Meeting of the American Association of Geographers, March 22–27, Las Vegas, NV.

Smulders, M., Nelson, T.A., Nielsen, S. E., and Stenhouse, G. (2009) **Spatially evaluating resource selection functions using conditional randomization**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Stewart, B.P., Wulder, M.A., Nelson, T.A., McDermid, G., and Linke, J. (2009) **Automated labeling of remotely sensed disturbances: framework and example**. Spatial Knowledge and Information Canada. February 20–22, Fernie, BC.

Berland, A., Nelson, T.A., Stenhouse, G. Graham, K., and Cranston, J. (2008) **The impact of landscape disturbance on grizzly bear habitat use in the Foothills Model Forest, Alberta, Canada**. Spatial Knowledge and Information Canada. February 14–17, Fernie, BC.

Eckstrand, H., Costa, M., Nelson, T.A., and Komick, N. (2008). **Temporal and spatial analysis of chlorophyll—A measurement within the Strait of Georgia, British Columbia**. Spatial Knowledge and Information Canada. February 14–17, Fernie, BC (Runner up for best student presentation).

Farmer, C., Nelson, T.A., Wulder, M.A., and Derksen, C. (2008). **Determination of Canadian snow regimes using passive microwave radiometry**. Spatial Knowledge and Information Canada. February 14–17, Fernie, BC.

Farmer, C., Nelson, T.A., Wulder, M.A., and Derksen, C. (2008). **Determination of Canadian Snow regimes using spatial-temporal analysis methods**. American Association of Geographers. April 15–19, Boston, MA.

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Gillanders, S.N., Coops, N.R., Gergel, S.E., Nelson, T.A., and Wulder, M.A. (2008). **Landscape pattern analysis of mountain pine beetle infestation in British Columbia, Canada using a multi-date image time series.** Landscape Ecology and Forest Management. September 16–22, Chengdu, China.

Goodwin, N.R., Coops, N.C., Wulder, M.A., Gillanders, S., Schroeder, T., and Nelson, T. (2008). **Estimation of insect infestation dynamics using spectral trajectories derived from a Landsat time series.** 29th Canadian Symposium on Remote Sensing. June 2–5, Whitehorse, YK.

Goodwin, N.R., Coops, N.C., Wulder, M.A., Gillanders, S., Schroeder, T., and Nelson, T. (2008). **Time series analysis of the mountain pine beetle outbreak in British Columbia.** 29th Canadian Symposium on Remote Sensing. June 2–5, Whitehorse, YK.

Laroque, C. P., Nelson, T.A., and Smith, D.J. (2008). **Detecting spatial connections within a dendrochronological network on Vancouver Island.** Canadian Association of Geographers. May 20–24th, Quebec City, QC.

Long, J., Nelson, T.A., and Wulder, M.A. (2008). **Living on the edge: spatial pattern implications of the current mountain pine beetle epidemic.** Spatial Knowledge and Information Canada. February 14–17, Fernie, BC.

Robertson, C., and Nelson, T.A. (2008). **A comparison of methods for computing cardinal directional relations of polygons.** Spatial Knowledge and Information Canada. February 14–17, Fernie, BC. (GIScience Study Group Award for Best Student Presentation.)

Robertson, C., Wulder, M.A., Nelson, T.A., and White, J C. (2008) **Augmenting an existing risk rating system for mountain pine beetle infestation of lodgepole pine forests.** American Association of Geographers. April 15–19, Boston, Massachusetts.

Serra-Sogas, N., Canessa, R., O'Hara, P., and Nelson, T.A. (2008). **Hierarchical clustering analysis of chronic oil pollution and shipping traffic in the Canadian Pacific Region.** GEOIDE 2008 Conference, May 28–30th, Niagara Falls, ON.

Smulders, M. Nelson, T.A., and Stenhouse, G. (2008). **Quantifying the impacts of landscape disturbance on the spatial patterns of grizzly bear habitat use.** Spatial Knowledge and Information Canada. February 14–17, Fernie, BC.

Biesiada, M., Fortin, M-J., and Nelson, T.A. (2007). **Spatial distribution of mountain pine beetle in the Morice Timber Supply Area in Western British Columbia between 1995 and 2002.** Geocomputation. September 3–5, Ireland.

Farmer, C., Nelson, T.A., Derksen, C., and Wulder, M.A. (2007). **Linking the spatial-temporal interactions of spatial association in SWE to land-cover characteristics.** Canadian

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Association of Geographers. May 28–June 2, Saskatoon, SK. (Winner of the best student presentation in Physical Geography).

Farmer, C., Nelson, T.A., Derksen, C., and Wulder, M.A. (2007). **The impact of temporal resolution on snow water equivalence monitoring**. Western Canadian Association of Geographers. March 9–10, Abbotsford, BC.

Mackenzie, I., and Nelson, T.A. (2007). **Mapping hotspots: Modifying a local measure of spatial association to account for regional differences**. Western Canadian Association of Geographers. March 9–10, Abbotsford, BC.

Nelson, T.A., and Boots, B. (2007). **Defining and detecting hot spots in landscape-scale ecology**. Canadian Association of Geographers. May 28–June 2, Saskatoon, SK.

Nelson, T.A., Duffus, D., Robertson, C., and Feyrer, L.J. (2007). **The space-time string: A spatial-temporal exploration of the foraging range of gray whales**. American Association of Geographers. April 17–21, San Francisco, CA.

Nelson, T.A., Duffus, D., Robertson, C., and Feyrer, L.J. (2007). **A spatial-temporal exploration of the foraging range of gray whales**. Western Canadian Association of Geographers. March 9–10, Abbotsford, BC.

Robertson, C., Nelson, T.A., Boots, B., and Wulder, M.A. (2007). **Mountain pine beetle movement during range expansion**. Canadian Association of Geographers. May 28–June 2, Saskatoon, SK. (Winner of the best student presentation in Environmental Geography.)

Robertson, C., Nelson, T.A., Boots, B., and Wulder, M.A. (2007). **STAMP: Spatial-temporal analysis of moving polygons**. American Association of Geographers. April 17–21, San Francisco, CA.

Robertson, C., Nelson, T.A., Boots, B., and Wulder, M.A. (2007). **STAMP : Spatial- temporal analysis of moving polygons**. Western Canadian Association of Geographers. March 9–10, Abbotsford, BC.

Farmer, C., O'Connell, I., and Nelson, T. (2006). **Mapping the effects of the modifiable areal unit problem on local measures of spatial autocorrelation**. GeoTec 2006. June 18–21, Ottawa, ON. (Winner of the best student paper.)

Farmer, C., O'Connell, I., and Nelson, T. (2006). **Mapping the effects of the modifiable areal unit problem on local measures of spatial autocorrelation**. Western Canadian Association of Geographers. March 10–11, Kamloops, BC.

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Langford, J., Niemann, O., Frazer, G.W., Wulder, M.A., and Nelson, T. (2006). **Exploring small footprint lidar intensity data in a forested environment**. IEEE 2006 International Geoscience and Remote Sensing Symposium. July 31–August 4. Denver, CO (presentation and proceedings).

MacKenzie, I., and Nelson, T. (2006). **The effects of data error on identifying hot spots in mountain pine beetle infestations**. Western Canadian Association of Geographers. March 10–11, Kamloops, BC.

Nelson, T. and Boots, B. (2006). **Exploring spatial-temporal change in mountain pine beetle infestations**. International Geographical Union, July 3–7, Brisbane, Australia.

Nelson, T., Boots, B., and Wulder, M.A. (2006). **Using spatial analysis to investigate large area mountain pine beetle dispersal**. Western Canadian Association of Geographers. March 10–11, Kamloops, BC.

Robertson, C., and Nelson, T. (2006). **An exploratory analysis into mountain pine beetle dispersal**. Western Canadian Association of Geographers. March 10–11, Kamloops, BC.

Boots, B., Nelson, T., and Wulder, M.A. (2005). **Spatial and spatial-temporal analysis of mountain pine beetle infestations at a landscape scale**. Mountain Pine Beetle Initiative Regional Information Session. July 11, Prince George, BC.

Nelson, T., Boots, B., and Wulder, M.A. (2005). **Spatial-temporal investigation of landscape scale mountain pine beetle dispersal**. International Union of Forest Research Organizations. July 12–13, Prince George, BC.

Nelson, T., and Boots, B. (2004). **Identifying insect infestation hot spots: an approach using conditional spatial randomization**. International Geographical Union, August 16–20, Glasgow, Scotland.

Nelson, T., Boots, B., and Wulder, M.A. (2004). **Spatial-temporal analysis of mountain pine beetle infestations to characterize pattern, risk, and spread at the landscape level**. In: T.L. Shore, J.E. Brooks, and J.E. Stone, Editors. Mountain Pine Beetle Symposium: Challenges and Solutions, October 30–31, 2003, Kelowna, BC, Canada. Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre, Victoria, BC, Information Report BC-X-399. pp: 164–173, (presentation and proceedings).

Nelson, T. (2003). **Exploring the spatial-temporal pattern of lodgepole pine mortality caused by mountain pine beetles**. Canadian Association of Geographers, May 27–31, Victoria, BC.

Wilson, H.G., Nelson, T., Boots, B., and Wulder, M.A. (2003). **Pre-processing for change detection: Ensuring images are on the same wavelength**. Canadian Association of Geographers, May 27–31, Victoria, BC.

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Wilson, H.G., Nelson, T., Boots, B., and Wulder, M.A. (2003). **Using a spatial statistic threshold technique for defining change in a forested environment.** Canadian Symposium on Remote Sensing, October 14–17, Montreal, QC.

Wulder, M.A., Carroll, A., Boots, B., and Nelson, T. (2003). **Remotely sensed and spatial data in the characterization of mountain pine beetle at the stand and landscape level.** Canadian Association of Geographers, May 27–31, Victoria, BC.

Nelson, T., Niemann, K.O., and Wulder, M. (2001). **Spatial statistical techniques for aggregating point objects extracted from high spatial resolution imagery.** IEEE 2001 International Geoscience and Remote Sensing Symposium, July 9–13, Sydney, Australia. (poster and proceedings)

Wulder, M.A., Boots, B., Seemann, D., Carroll, A., and Nelson, T. (2001). **Using spatial analysis to predict forest inventory polygons at risk of mountain pine beetle infestation.** Digital Earth 2001, June 24–28, Fredericton, NB.

Wulder, M., Nelson, T., Niemann, K.O., Seemann, D., Goodenough, D., Dyke, A., and Bhogal, A. (2001). **Individual tree recognition from multiple high spatial resolution image sources.** IEEE 2001 International Geoscience and Remote Sensing Symposium, July 9–13, Sydney, Australia. (presentation and proceedings)

Nelson, T., Wulder, M., and Niemann, K.O. (2000). **Digitizing aerial photography—understanding spatial resolution.** Proceedings of the 22nd Canadian Symposium on Remote Sensing, August 20–25, Victoria, BC. (presentation and proceedings)

Leckie, D., Burnett, C., Nelson, T., Jay, C., Walsworth, N., Gougeon, F., and Cloney, E. (1999). **Forest parameter extraction through computer-based analysis of high resolution imagery.** Proceedings of the 21st Canadian Symposium on Remote Sensing, June 21–24, Ottawa, ON. (presentation and proceedings)

Nelson, T. (1999). **A comparative study of an artificial neural network and maximum likelihood classification on one metre MEIS imagery.** Western Division of the Canadian Association of Geographers, March 11–13, Kelowna, BC.

Nelson, T. (1999). **The success and challenges of using high resolution multispectral data for forestry feature extraction.** Western Division of the Canadian Association of Geographers, March 11–13, Kelowna, BC.

Carter, R., LeRoy, S., and Nelson, T. (1998). **Dendroglaciological dating at Hilda Creek Rock Glacier, Banff National Park.** Western Division Canadian Association of Geographers, March 12–14, Richmond, BC.

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INVITED SPEAKER

- 2016 Webinar: BikeMaps.org December 6, 2016.
- 2016 BikeMaps.org. Presentation to ASU Transportation. November 21, 2016.
- 2016 BikeMaps.org – Demographic Representation. August 19, 2016.
- 2016 Geography Colloquium Series, University of Arizona. **From Bears to Bikes: Applied Spatial Data Science**. Tucson, AZ. October 28, 2016.
- 2016 Transportation Seminar, Arizona State University. **BikeMaps.org**. Tempe, AZ. September 9, 2016.
- 2016 Dean’s Lecture Series, University of Victoria. **BikeMaps.org: What we’ve learned**. Victoria, BC. January 22, 2016.
- 2015 Guest Panelist on **#CitSciChat** – Twitter Q&A hosted by @CoopSciScoop, sponsored by SciStarter.com. December 9, 2015.
- 2015 Second Pan Canadian Spatial Data Infrastructure (SDI) Summit. **Volunteer Geographic Information for Urban Planning**. Victoria, BC. November 24, 2015.
- 2015 Latitude Geographics Inc. Brown Bag Lunch Series. **First Year of BikeMaps.org**. Victoria, BC. Oct. 8, 2015.
- 2015 Public Talk, City of Victoria. **First Year of BikeMaps.org**. Victoria, BC. October 6, 2015.
- 2015 Geographers Without Borders, University of Waterloo. **BikeMaps.org**. Waterloo, ON. July 3, 2015.
- 2015 District of Saanich, Planning and Engineering Staff. **BikeMaps.org**. Saanich, BC. June 9, 2015.
- 2015 Translink. **BikeMaps.org**. Vancouver, BC. June 15, 2015.
- 2015 Pacific Forestry Centre. **BikeMaps.org**. Victoria, BC. May 27, 2015.
- 2015 Centre for Hip Health and Mobility, UBC & Vancouver Coastal Health Research Institute. **BikeMaps.org**. Vancouver, BC. March 2, 2015.
- 2014 Capital Regional District (CRD) Traffic Safety Commission. **Bike Mapping in the CRD**. November 13, 2014.
- 2014 University Consortium for Geographic Information Science (UCGIS) Webinar. **Trends in GIScience Research and Teaching**. October 15, 2014. <http://ucgis.org/webinars>
- 2013 Women in Engineering and Computer Science, University of Victoria. **SPAR Lab Research: From Grizzly Bears to Ultimate Frisbee**. Victoria, BC. November 1, 2013.
- 2013 MDA, **From Grizzly Bears to Biodiversity: Spatial Ecology Research**. Richmond, BC. June 4, 2013.

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- 2013 Fields Institute for Research in Mathematical Sciences. Workshop on Establishing the Scientific Foundation for Quantitative Public Health Decision-Making. **Statistical Modeling, Spatial Data**. Toronto, ON. April 29, 2013.
- 2013 Latitude Geographic Group Ltd. Seminar Series. **SPAR Lab Research: From Grizzly Bears to Ultimate Frisbee!** Victoria B.C. April 11, 2013.
- 2012 Centre Européen de Recherche et d'Enseignement des Géosciences de l'Environnement, Aix-Marseille University. **Spatial Analysis of Wildlife Data**. Aix en Provence, France. September 18, 2012.
- 2012 Geography, St. Andrews University. **Biodiversity to Bears: Spatial Analysis for Ecology**. St. Andrews, Scotland. July 20, 2012.
- 2010 School of Environment and Sustainability, University of Saskatchewan. **Environmental solutions: collaborative and interdisciplinary spatial science**. Saskatoon, SK. March 25, 2010.
- 2010 Cloutier-Fisher, D. and Nelson, T. Seniors Health Rounds, Vancouver Island Health Authority. **A proposal to explore the links between mobility and quality of life for institutionalized persons with dementia**. Accredited for Continuing Medical Education credits with the Royal College of Physicians and Surgeons of Canada. Victoria, B.C. April 20, 2010.
- 2009 Mathematics and Statistics Colloquium Series. **From Beetles to Bears: Understanding Patterns and Processes**. Victoria, BC. October 23, 2009.
- 2009 Texas A & M University, Department of Geography, **From Beetles to Bears: Understanding Patterns and Processes**. College Station, TX. September 23, 2009.
- 2009 GEOIDE Student Network Summer School, **Spatial Analysis**. Vancouver, BC. June 20-22, 2009.
- 2007 San Diego State University, Department of Geography, **Mountain Pine Beetle Infested Landscapes: Understanding the Spatial Dynamics of Epidemics**. San Diego, CA. October 11, 2007.
- 2007 GEOIDE Student Network Summer School, **Beyond Graduation: Beginning an Academic Career**. Halifax, NS. June 2, 2007.
- 2007 Geography Colloquium Series, **Mountain Pine Beetle Infested Landscapes: Understanding the Spatial Dynamics of Epidemics**. Victoria, BC. March 16, 2007.

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- 2007 Malaspina University-College Faculty of Science and Technology Lecture Series, **Mountain Pine Beetle Infested Landscapes: Understanding the Spatial Dynamics of Epidemics**. Nanaimo, BC. February 2, 2007.
- 2006 Guest Panelist for Graduate Student Class Department of Geography, University of Victoria, **Completing Graduate Studies**. Victoria, BC. November 8, 2006.
- 2006 Guest Panelist for Graduate Student Professional Development Class, Faculty of Social Science, University of Victoria, **The First Year Experience**. Victoria, BC. November 3, 2006.
- 2003 Guest Speaker for Pacific Forestry Centre Seminar, **Spatial-Temporal Analysis of Mountain Pine Beetle Infestations to Characterize Pattern, Risk, and Spread at the Landscape Level**. Victoria, BC. December 2, 2003.
- 2002 Guest Lecturer for GIS Day, Department of Geography and Environmental Studies, Wilfrid Laurier University, **Using Satellite Imagery as Data for GIS**. Waterloo, ON. November 20, 2002.

SESSION CHAIR

- 2007 **Patterns, Patterns, Everywhere a Pattern: Pattern Analysis in Geography**, Canadian Association of Geographers. May 28–June 2, Saskatoon, SK (Session Chair & Organizer).
- 2007 **Application in Spatial Analysis**, Western Canadian Association of Geographers. March 9–10, Abbotsford, BC.
- 2006 **The Mountain Pine Beetle Impacts and Management Session Chair**, Western Canadian Association of Geographers. March 10–11, Kamloops, BC.
- 2003 **Applications of Spatial Statistics**, Canadian Association of Geographers, May 27–31, Victoria, BC. (Session Chair & Organizer).
- 2001 **Women in Geomatics**, GEOIDE Annual General Meeting, June 21–22, Fredericton, NB. (Session Chair & Organizer).
- 2001 **GEOIDE**, GIS 2001, February 19–22, Vancouver, BC.

FEATURED RESEARCH

- 2017 BikeMaps.org hotspot report for Saanich mentioned in Times Colonist article. <http://www.timescolonist.com/news/local/saanich-using-bike-hot-spots-to-map-out-transportation-plan-1.6959346#sthash.OiRlhsWo.dpuf> January 11, 2017

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- 2016 Featured in ASUNow. “The Importance of Bike Safety”. <https://asunow.asu.edu/20161021-arizona-impact-importance-bike-safety> October 21, 2016.
- 2016 Interviewed by Chris and Melissa Bruntlett (Modacity). BikeMaps.org uses “citizen science” to improve urban cycling experience. <http://dailyhive.com/vancouver/bikemaps-org-uses-citizen-science-to-improve-the-urban-cycling-experience> June 25, 2016
- 2016 BikeMaps.org featured in an Icelandic news article. Bregðast við aukinni umferð hjólreiðamanna. (*Response to increased cycling traffic*). <http://www.ruv.is/frett/bregdast-vid-aukinni-umferd-hjolreidamanna> May 31, 2016
- 2016 Interviewed on CFAX 1070 on the Biketoria course. GEOG 491. Victoria, BC. January 8, 2016
- 2016 Featured in the Times Colonist newspaper for the development of the Biketoria course GEOG 491. <http://www.timescolonist.com/news/local/biketoria-course-gives-students-a-chance-to-work-on-real-life-project-1.2146585>. January 8, 2016.
- 2015 Interviewed by CBC Radio All Points West discussing the results of Galloping Goose study and first year of BikeMaps.org. Oct. 6, 2015.
- 2015 Times Colonist article, **Online Map Allows Victoria Cyclists to Navigate Trouble Spots**. September 13, 2015.
- 2015 Interviewed by CBC Radio All Points West discussing BikeMaps.org study on Galloping Goose. April 15, 2015.
- 2015 Interviewed by Meghan Cuthbert for Shaw TV’s go! Island. Aired March 9-11, 2015. <https://www.youtube.com/watch?v=RAviWuMuCjo>
- 2015 Interviewed by Khalil Aktar on CBC Radio’s All Points West. Discussing Message in the Bottle Drive. February 23, 2015.
- 2015 Guest columnist in Saanich News. Published January 15, 2015. <http://www.saanichnews.com/opinion/289179241.html>
- 2015 Interviewed by Gregor Craigie of CBC Radio On the Island. January 12, 2015. <https://soundcloud.com/cbcvictoria/online-bike-map-cycling-safety>
- 2014 Interviewed by Mike Lakusiak, TheThunderbird.ca (UBC). November 24, 2014. <https://soundcloud.com/lakusiak/exploring-bikemaps-cyclists-using-and-contributing-to-open-data>
- 2014 BikeMaps.org featured in Vancouver Observer. November 21, 2014. <http://www.vancouverobserver.com/news/bikemaps-aims-improve-cyclist-safety>

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- 2014 Interviewed by Terry Moore, CFX 1070 discussing BikeMaps.org. November 14, 2014. <https://soundcloud.com/terry-moore-cfx/november-14th-3pm>.
- 2014 BikeMaps.org featured in the Saanich News. “University of Victoria project BikeMaps.org goes global”. November 11, 2014. <http://www.saanichnews.com/news/282361041.html>
- 2014 BikeMaps.org featured in Pique Magazine (Whistler, BC). October 30, 2014. <http://www.piquenewsmagazine.com/whistler/new-mapping-tool-provides-bikers-with-real-time-safety-data/Content?oid=2571402>
- 2014 Interviewed by Spice Radio Vancouver regarding BikeMaps.org. October 28, 2014.
- 2014 BikeMaps.org featured in Vancouver Sun. October 25, 2014. <http://www.vancouversun.com/touch/story.html?id=10323078>
- 2014 BikeMaps.org team interviewed by Kylie Stanton, Global News. Aired October 15, 2014. <http://globalnews.ca/video/1617237/uvic-website-tracks-cycling-hazards/>
- 2014 BikeMaps.org and Nelson featured in Times Colonist. “University of Victoria geographer helps track cycling hazards”. October 9, 2014. <http://www.timescolonist.com/news/local/university-of-victoria-geographer-helps-track-cycling-hazards-1.1419998>
- 2014 Interviewed by CBC Radio Victoria on All Points West. October 7, 2014 https://soundcloud.com/cbcvictoria/mapping-bike-crashes-and-thefts?utm_source=soundcloud&utm_campaign=share&utm_medium=twitter
- 2014 Interviewed by Jeremy Baker, on 91.3 The Zone (local radio station) regarding grizzly bear research. April 22, 2014.
- 2013 Research featured in the UVic knowLEDGE series, Times Colonist. November: “The bear facts... and more — Grizzly bear conservation is just one of many ways to apply the growing field of Geomatics.”
- 2013 SPAR Lab Research on the predicted impacts of climate change on Strathcona Provincial Park (Holmes et al., 2013) featured in newspaper articles (Times Colonist July 15, 2013; editorial August 7, 2013; Comox Valley Record July 15, 2013; MetroNews June 24, 2013; Canada.com July 15, 2013) and in an interview on CFX 1070 on June 25, 2013.
- 2007 **Geographers at work: The domino effect of climate change on our forests.** Physical Geography: Science and Systems of the Human Environment. Strahler, A. and Archbold, O.W., Editors. 4th Edition, Canadian Version.
- 2007 Mountain pine beetle research featured in the University of Victoria Social Sciences Annual Report.

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2006 Interviewed by German Newspaper Berliner Zeitung “Der Borkenkäfer bezwingt die Rocky Mountains” regarding mountain pine beetle outbreak. November 10, 2006.

2006 Featured as “Highlight Qualified Personnel” in GEOIDE Annual Report.

SELECTION OF OTHER SERVICE

- 2016 ASU College of Liberal Arts and Science, Online Task Force
- 2016 ASU College of Liberal Arts and Science, Hiring committee for Director of Online Curriculum and Digital Innovation.
- 2015 Co-organizer, Location Tech. Victoria, BC. October 23, 2015.
- 2015 Co-organizer, GIS Day event, “**Getting your first job in GIS**”. November 18, 2015.
- 2015 Skills workshop organizer, **An intro to python and GIS**. October 20, 2015.
- 2015 Member, Victoria Bicycle Network Stakeholder Advisory Committee
- 2015 Case manager for promotion and tenure case.
- 2015 Geographers without Borders
- 2014 Editorial Board, Geographical Analysis
- 2014 Conference Programming Committee: **GIScience Workshop; Analysis of Movement Data (AMD’14)**. Vienna, Austria. September 2014.
- 2009–2011 **University of Victoria’s Priorities and Planning Committee**
- 2008–2011 Chair of the **Student Recruitment and Retention Committee**
- 2008 Organized and hosted a teleconference with **Peter Haggett** on the future of Geography. Victoria, BC.
- 2007–2010 Founder and Organizer of the **UVic Geography Student Conference—Bridging the Gap**. Victoria, BC.
- 2007–2008 Conference Programming Committee: **Spatial Knowledge and Information Canada** February 15–17, 2008, Fernie, BC.
- 2006–Present Founder and Organizer of the **Spatial Analysis Salon**
- 2002–2003 Founder and Organizer of **Students of Spatial Statistics**
- 2000–2001 Coordinator of the **GEOIDE Student’s Network**
- 2000–2001 Project Leader of **Women in Geomatics**

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JOURNAL AND GRANT REFEREE

Geographical Analysis
Methods in Ecology and Evolution
Proceedings of the National Academy of Sciences
Geomatics
Annals of GIS
Transactions in GIS
Cartographica
Ecography
Environmental and Ecological Statistics
Injury Prevention
International Journal of Geographic Information Science
Journal of Geographical Systems
Landscape Ecology
Canadian Journal of Remote Sensing
Environmental Monitoring and Assessment
Philosophical Transactions of the Royal Society B
International Journal of Pest Management
Population Ecology
Journal of Geophysical Research - Atmospheres
The Canadian Geographer
Journal of Environmental Management
Journal of Ecology and the Natural Environment
PLoS One
Applied Geography
Landscape and Urban Planning
Forest Ecology and Management
Pest Management
Forestry Chronicle
Environmental Modeling and Software
Transportation
NSERC (grant)
GEOIDE (grant)
NSF (grant)
Young Esri Scholar Award adjudication committee
MITACS Grant

ASSOCIATIONS

1998–2005	GEOIDE Student's Network
2001–Present	Canadian Association of Geographers
2002–Present	The International Geographical Union
2007–Present	American Association of Geographers
2008–2012	GEOIDE