

Dr Jed A. Long

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Education

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|---|------------------------------|
| University of Victoria <i>PhD, Geography</i> | Victoria, Canada 2013 |
| University of Victoria <i>MSc, Geography</i> | Victoria, Canada 2009 |
| Centre of Geographic Sciences <i>Advanced Diploma, Geographic Information Systems (GIS)</i> | Lawrencetown, Canada 2007 |
| University of Guelph <i>BSc, Physical Science</i> | Guelph, Canada 2006 |

Publications

Submitted

Jones, E., Rendell, L., Pirodda, E., **Long, J.A.** Novel application of a quantitative spatial comparison tool to species distribution data. *Methods in Ecology and Evolution*. Submitted: 2015-08-28.

Damgaard, C., McCauley, D., **Long, J.A.** An unconventional view of energy justice: A case study of bioenergy in Nepal. *Geoforum*. Submitted: 2015-06-05.

Long, J.A., Webb, S.L., Nelson, T.A., Gee, K. Mapping areas of spatial-temporal overlap from wildlife telemetry data. *Movement Ecology*. Submitted: 2015-02-19.

Accepted or In Press

Sila-Nowicka, K., Demsar, U., Oshan, T., Vandrol, J., **Long, J.A.**, Fotheringham, A.S. (2015) Analysis of human mobility from GPS trajectories and contextual information. *International Journal of Geographical Information Science*. Accepted: 2015-09-07.

Long, J.A. (2015) Kinematic interpolation of movement data. *International Journal of Geographical Information Science*. DOI: 10.1080/13658816.2015.1081909.

Refereed Journals

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

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

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

- Long, J.A.**, Nelson, T.A., Nathoo, F.S. (2014) Toward a kinetic-based probabilistic time geography. *International Journal of Geographical Information Science*. 28(5): 855-874.
- Robertson, C., **Long, J.A.**, Nathoo, F.S., Nelson, T.A., 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.
- Long, J.A.**, Nelson, T.A. (2013) A review of quantitative methods for movement data. *International Journal of Geographical Information Science*. 27(2): 292-318.
- Long, J.A.**, Nelson, T.A. (2013) Measuring dynamic interaction in movement data. *Transactions in GIS*. 17(1): 62-77.
- Long, J.A.**, Robertson, C., Nathoo, F.S., Nelson, T.A. (2012) A Bayesian space-time model for discrete spread processes on a lattice. *Spatial and Spatio-Temporal Epidemiology*. 3: 151-162.
- Long, J.A.**, Nelson, T.A. (2012) Time geography and wildlife home range delineation. *Journal of Wildlife Management*. 76(2): 407-413.
- Long, J.A.**, Hazlitt, S.L., Nelson, T.A., Laberee, K. (2011) Estimating 30-year change in coastal old-growth habitat for a forest nesting seabird in British Columbia, Canada. *Endangered Species Research*. 14(1): 49-59.
- Long, J.**, Nelson, T., Wulder, M. (2010) Regionalization of landscape pattern indices using multivariate cluster analysis. *Environmental Management*. 46(1): 134-142.
- Long, J.A.**, Nelson, T.A., Wulder, M.A. (2010) Characterizing forest fragmentation: Distinguishing change in composition from configuration. *Applied Geography*. 30(3):426-435.
- Long, J.A.**, Nelson, T.A., Wulder, M.A. (2010) Local indicators for categorical data (LICD): impacts of scaling decisions. *The Canadian Geographer*. 54(1):15-28.

Reports

- Nelson, T.A., **Long, J.A.**, Laberee, K. (2009) Change in Available Marbled Murrelet Nesting Habitat from 1978 to 2008 in British Columbia, Canada. Victoria, BC: *Report for the Ministry of Environment, Species at Risk Coordination Office (SaRCO)*, working document 1. 26p.
- Long, J.A.**, Nelson, T.A., Wulder, M.A. (2009) Preliminary analysis on the regionalization of landscape pattern indices using multivariate cluster analysis - MPBI working paper. Victoria, BC: *Mountain Pine Beetle Program Project #7.32*, working document 1. 31p.
- Long, J.A.**, Nelson, T.A., Wulder, M.A. (2008) Preliminary analysis on the impacts of mountain pine beetle management on the spatial pattern of forests - MPBI working paper. Victoria, BC: *Mountain Pine Beetle Program Project #7.32*, working document 1. 30p.

Conference Presentations

- Long, J.A.** (2015) Quantifying spatial-temporal interactions from wildlife tracking data: Issues of space, time, and statistical significance. *Spatial Statistics*. Jun. 09-13. Avignon, France.
- Long, J.A.** (2015) Mapping interactive behaviour in wildlife from GPS tracking data. *GISRUK2015*. Apr. 15-17. Leeds, UK.

- Long, J.A.** (2014) Kinematic path interpolation and extensions to time geography. *GIScience, Workshop on Analysis of Movement Data*. Sep. 23-26. Vienna, Austria.
- Long, J.A.**, Robertson, C., Nelson, T.A. (2014) Spatial temporal analysis of polygon movement: Distance and directional relationships. *GIScience*. Sep. 23-26. Vienna, Austria. (Poster)
- Long, J.A.**, Nelson, T.A., Webb, S.L., Gee, K.L. (2014) Mapping interactive behaviour in wildlife tracking data: a time geographic approach. *Annual meeting of the Association of American Geographers (AAG)*. Apr. 8-12; Tampa, FL.
- Long, J.A.**, Nelson, T.A., 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.
- Long, J.A.**, Nelson, T.A. (2012) Measuring dynamic interaction patterns in in movement data. *Annual meeting of the Canadian Association of Geographers (CAG)*. May 28-Jun. 2; Waterloo, ON.
CAG GIScience Study Group Award for Best Student Presentation.
- Long, J.A.**, Nelson, T.A., Nathoo, F.S. (2012) Towards a momentum-based probabilistic time geography. *Annual meeting of the Association of American Geographers (AAG)*. Feb. 24-28; New York, NY.
- Long, J.A.**, Robertson, C., Nathoo, F.S., Nelson, T.A. (2011) Application of a Bayesian space-time spread model to the mountain pine beetle outbreak in Western Canada. *GEOMED*. Oct. 20-22; Victoria, BC. (Poster)
- Long, J.A.**, Nelson, T.A. (2011) A new interaction statistic for movement data. *GEOIDE Annual Scientific Conference*. May 16-17; Toronto, ON. (Poster)
- Long, J.A.**, Nelson, T.A. (2011) Advances in wildlife telemetry data: An opportunity for space-time geography. *Annual meeting of the Association of American Geographers (AAG)*. Apr. 12-17; Seattle, WA.
- Long, J.A.**, Nelson, T.A. (2011) Sports, time geography, and mobility data. *Spatial Knowledge and Information (SKI) Canada*. Mar. 4-6; Fernie, BC.
SKI Canada Student Presentation Award.
- Long, J.A.**, Robertson, C., Nelson, T.A., Nathoo, F. (2010) Modeling spread of mountain pine beetle in Western Canada. *Geomatics Canada Conference/GEOIDE Annual Scientific Conference*. Jun. 15-18; Calgary, AB.
- Long, J.A.**, Nelson, T.A. (2010) Time geography and animal home ranges. *Geomatics Canada Conference/GEOIDE Annual Scientific Conference*. Jun. 15-18; Calgary, AB. (Poster)
- Long, J.A.**, Robertson, C., Nathoo, F., 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*. Mar. 3-5; Montreal, QC.
- Long, J.A.**, Nelson, T.A., Wulder, M.A. (2009) Quantifying forest composition and configuration following insect infestation and mitigation. *Annual meeting of the Association of American Geographers (AAG)*. Mar. 22-27; Las Vegas, NV.

Long, J.A., Nelson, T.A., Wulder, M.A. (2009) A decision framework for local indicators for categorical data. *Spatial Knowledge and Information (SKI) Canada*. Feb. 19-21; Fernie, BC.

Long, J.A., Nelson, T.A., Wulder, M.A. (2008) Living on the edge: Spatial pattern implications of the current mountain pine beetle epidemic. *Spatial Knowledge and Information (SKI) Canada*. Feb. 15-17; Fernie, BC.

Research Projects

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| Reshaping society and space (WORKANDHOME) <i>Co-Investigator</i> PI: Dr Darja Reuschke | 2015-2018 <i>ERC</i> €1500000 |
| Space-time statistics for mobility and tracking data <i>Principal Investigator</i> | 2010-2012 <i>NSERC PhD Fellowship</i> \$63000 |
| Space-time modeling of mountain pine beetle range expansion <i>Research Assistant</i> PI: Dr Farouk Nathoo | 2009-2010 <i>NSERC</i> |
| Provincial mapping of marbled murrelet nesting habitat <i>Project GIS Leader</i> PI: Dr Trisalyn Nelson | 2009 <i>BC Ministry of Environment</i> |

Awards & Scholarships

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| Howard E. Petch Research Scholarship | (\$7500) | 2012 |
| University of Victoria President's Research Scholarship | (\$12000) | 2010-2012 |
| Pacific Century Scholarship | (\$10000) | 2009 |
| Pacific Forestry Centre Graduate Award | (\$5000) | 2008, 2009 |

Teaching

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| Geography & Geosciences, University of St Andrews <i>Lecturer</i> | 2013-Present |
| <ul style="list-style-type: none"> • Advanced Topics in Geographic Information Science (Year 4) • Multivariate Data Analysis (Year 3) • Introduction to Spatial Data & Analysis (Year 1) • Sustainable Development: Tools for Action (Year 2 – <i>Coordinator</i>) | |
| Geography, University of Victoria <i>Sessional Instructor</i> | 2010-2013 |
| <ul style="list-style-type: none"> • Advanced Spatial Analysis & Geostatistics (Year 4) | |

- Special Topics in Geography: Geocaching (Year 3)
- Teaching Assistant for various courses in GIScience (Year 2-4)

Invited Lectures

I have given invited lectures on the subjects of mountain pine beetle epidemiology, spatial modeling, and spatial categorical data analysis.

Memberships

Royal Geographical Society, Institute of British Geographers

Canadian Association of Geographers

Association of American Geographers

Service & Outreach

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| Program Committee <i>GIScience 2016</i> | 2016 <i>Montreal, Canada</i> |
| What can we really learn from GPS tracking? <i>Cafe Scientifique</i> | 2015 <i>Dunkeld, Scotland</i> |
| Chair & Organizing Committee <i>Geography Graduate Symposium</i> | 2012 <i>Victoria, Canada</i> |
| Session Chair, GIScience II <i>CAG Conference</i> | 2012 <i>Waterloo, Canada</i> |
| Session Chair, Health Geography and Spatial Data <i>GEOMED Conference</i> | 2011 <i>Victoria, Canada</i> |
| GPS demo for elementary students <i>Let's Talk Science</i> | 2008 <i>Victoria, Canada</i> |

Peer Reviewing:

Annals of the Association of American Geographers, Applied Geography, CartoCon, Ecological Indicators, Ecological Informatics, Environmental & Ecological Statistics, International Journal of Geographical Information Science, Landscape Ecology, Landscape Research, NSF Proposals, Methods in Ecology & Evolution, PLOS One, Spatial and Spatio-Temporal Epidemiology, The Condor