

## **CURRICULUM VITAE**

### **Brian Michael Wotton**

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### **Education**

Ph.D. 2004 Forestry, University of Toronto  
Title: Predicting forest fire occurrence in the province of Ontario  
B.Sc.H. 1990 Physics, Queen's University at Kingston

### **Professional employment history**

Senior Research Scientist	Forest Fire Behaviour and Climate Change, Great Lakes Forest Centre, Canadian Forest Service. 2017-
Research Scientist	Forest fire behaviour and climate change, Great Lakes Forest Centre, Canadian Forest Service. 2005-2017
Physical Scientist	Forest fire behaviour and climate change. Great Lakes Forest Centre, Canadian Forest Service, Canadian Forest Service 1996-2005
Physical Scientist	Forest fire behaviour and ecology. Petawawa National Forestry Institute, Canadian Forest Service, Canadian Forest Service 1990-1996

### **Research areas**

Dr. Wotton's current research focus involves developing process based models of fuel moisture exchange, fire ignition and spread that can be applied by fire management agencies throughout Canada. This work, in part, involves development of models for the Canadian Forest Service's Canadian Forest Fire Danger Rating System (CFFDRS), a system used operationally throughout Canada and a growing number of countries around the world. His research has also focused on the projection of climate change impacts on fire activity and management in Canada using of fire danger and fire occurrence models. Dr. Wotton works closely with fire management agencies from across Canada in the application of the results of his research and the CFFDRS into daily fire management operations.

### **Training Activities**

Dr Wotton is stationed at the University of Toronto, within the Faculty of Forestry, where (as a status-only professor) he supervises graduate students interested in the physical aspects of forest fire science, serves on graduate advisory committees of graduate students studying forestry, teaches a course he developed on fire danger rating and fire behaviour to both undergraduate and graduate students (FOR419/1416), and guest lectures in other undergraduate and graduate level classes.

### **Selected Professional Activity**

- Advisory Board member-NSRC(UK) sponsored 5-year project: Toward a UK Fire Danger Rating System, 2019-2025
- Co-Chair of the Wildland Fire Canada 2019 Conference
- Canadian Chair and Canadian delegation led for North American Forestry Commission-Fire Management Working Group (2017-2019)
- Associate Editor - Canadian Journal of Forest Research (2017-2019)
- Chair of International Union of Forest Research Organizations (IUFRO) Forest Fire Unit (2015-2020)
- National representative on Advisory Committee: Western Canada Partnership for Wildland Fire Research (University of Alberta) (2010-2012)
- Member of Scientific Advisory committee – VI<sup>th</sup> International Conference on Forest Fire Research (2010,2014,2018,2022)
- Conference co-chair and Program Chair – Wildland Fire Canada 2010
- Wildland Fire Canada Conference series co-founder 2010
- Coordinator of Canadian Forest Service’s Modernization of the Canadian Forest Fire Danger Rating System research program.(2009-present)
- Chair and member of the International Association of Wildland Fire’s Graduate Scholarship Committee (2008 to 2013)
- Adjunct professor in the Faculty of Forestry, University of Toronto (2006-present)
- Associate Editor of the International Journal of Wildland Fire (2000 to 2010)
- Canadian Forest Service’s representative on the Canadian Interagency Forest Fire Committee Science and Technology Working Group. (2004-2007)
- Member of the Canadian Council of Forest Minister’s Core Team developing the Canadian Wildland Fire Strategy (2004-2006)

### **Scientific Journal Publications**

- Schiks TJ, Wotton BM, & Martell DL (2024). Remote Sensing Active Fire Detection Tools Support Growth Reconstruction for Large Boreal Wildfires. *Fire*, 7(1), 26.
- Wheatley M, Cotton-Gagnon A, Boucher J, Wotton BM, McFayden CB, Jurko N, & Robinson J (2023). Exploring the impact of airtanker drops on in-stand temperature and relative humidity. *International journal of wildland fire*, 32(8), 1269-1276.
- Wheatley M, Wotton BM, Woolford DG, Martell DL, Johnston JM (2023). Modelling decisions concerning the dispatch of airtankers for initial attack on forest fires in Ontario, Canada. *Canadian Journal of Forest Research*. doi.org/10.1139/cjfr-2022-0225
- Hanes, CC, Wotton M., Bourgeau-Chavez L., Woolford DG, Bélair S, Martell D & Flannigan MD (2023). Evaluation of new methods for drought estimation in the Canadian Forest Fire Danger Rating System. *International Journal of wildland fire*, 32(6), 836-853.
- Moris JV, Álvarez-Álvarez P, Conedera M, Dorph A, Hessilt TD, Hunt HGP, Libonati, R., Menezes, L. S., Müller, M. M., Pérez-Invernón, F. J., Pezzatti, G. B., Pineda,

- N., Scholten, R. C., Veraverbeke, S., Wotton, B. M., and Ascoli, D. (2023) A global database on holdover time of lightning-ignited wildfires, *Earth Syst. Sci. Data Discuss.* [preprint], <https://doi.org/10.5194/essd-2022-410>
- McFayden CB, George C, Johnston LM, Wotton BM; Johnston D, Johnston JM. (2022) A Case-study of Wildland Fire Management Knowledge Exchange: The Barriers and Facilitators in the Development and Integration of the Canadian Forest Fire Danger Rating System in Ontario, Canada. *International Journal of Wildland Fire* 31(9), 835-846.
- Wheatley M, Wotton BM, Woolford DG, Martell DL, Johnston JM (2022) Modelling initial attack success on wildfires supported by air attack in Ontario, Canada. *International Journal of Wildland Fire*, 31(8), 774-785
- Hanes CC, Wotton M, Woolford DG, Martell DL Flannigan MD (2022) Mapping organic layer thickness and fuel load of the boreal forest in Alberta, Canada. *Geoderma* 417: 115827.
- Boyчук D, McFayden CB, Woolford DG, Wotton M, Stacey A, Evens J, ... & Wheatley, M. (2021). Considerations for Categorizing and Visualizing Numerical Information: A Case Study of Fire Occurrence Prediction Models in the Province of Ontario, Canada. *Fire*, 4(3), 50.
- Dufour D, Le Noc L, Tremblay B, Tremblay MN, G  n  reux F, Terroux M, Vachon C, Wheatley MJ, Johnston JM, Wotton M and Topart P (2021) A bi-spectral microbolometer sensor for wildfire measurement. *Sensors*, 21(11), p.3690.
- Wilkinson SL, Furukawa AK, Wotton BM, Waddington JM (2021). Mapping smouldering fire potential in boreal peatlands and assessing interactions with the wildland–human interface in Alberta, Canada. *International Journal of Wildland Fire*, 30(7), 552-563.
- Lin Z, Bohdenoc D, Liu HHT, Wotton M (2021) Autonomous Wildfire Hotspot Detection Using a Fixed Wing UAV. *Int J Aerospace System Science and Engineering* 1(1) 68-84.
- Woolford DG, Martell DL, McFayden C, Evens J, Stacey A, Wotton BM, and Boyчук, D (2020). The Development and Implementation of a Human-Caused Wildland Fire Occurrence Prediction System for the Province of Ontario, Canada. *Canadian Journal of Forest Research*, 51 (2), 303-325
- Coogan SC, Daniels LD, Boyчук D, Burton PJ, Flannigan MD, Gauthier S, Kafka V, Park JS, Wotton BM. (2021) Fifty years of wildland fire science in Canada. *Canadian Journal of Forest Research* 51(2):283-302.
- Hanes C, Wotton M, Woolford DG, Martell DL, Flannigan M (2020) Preceding Fall Drought Conditions and Overwinter Precipitation Effects on Spring Wildland Fire Activity in Canada. *Fire*, 3(2), 24.
- Pepin AC, Wotton M (2020) Fire Behaviour Observation in Shrublands in Nova Scotia, Canada and Assessment of Aids to Operational Fire Behaviour Prediction. *Fire*, 3(3), 34.
- Boyчук D, McFayden CB, Evens J, Shields J, Stacey A, Woolford DG, Wotton M, Johnston D, Leonard D, McLarty D (2020). Assembling and Customizing Multiple Fire Weather Forecasts for Burn Probability and Other Fire Management Applications in Ontario, Canada. *Fire*, 3(2), 16.

- Johnston LM, Wang X, Erni S, Taylor SW, McFayden CB, Oliver JA, Stockdale C, Christianson A, Boulanger Y, Gauthier S, Arseneault D, Wotton BM, Parisien M, Flannigan MD, (2020). Wildland fire risk research in Canada. *Environmental Reviews*, 28(2), 164-186.
- Lin Z, Liu HHT, Wotton M (2018) Kalman filter-based large-scale wildfire monitoring with a system of UAVs. *IEEE Transactions on Industrial Electronics* 66(1), 606-615 DOI:[10.1109/TIE.2018.2823658](https://doi.org/10.1109/TIE.2018.2823658)
- Wilkinson SL, Moore PA, Thompson DK, Wotton BM, Hvenegaard S, Schroeder D, Waddington JM (2018). The effects of black spruce fuel management on surface fuel condition and peat burn severity in an experimental fire. *Canadian Journal of Forest Research*, 48(12), 1433-1440.
- Wilkinson SL, Moore PA, Flannigan MD, Wotton BM, Waddington JM (2018). Did enhanced afforestation cause high severity peat burn in the Fort McMurray Horse River wildfire? *Environmental Research Letters*, 13(1), 014018.
- Daniel, C. J., Ter-Mikaelian, M. T., Wotton, B. M., Rayfield, B., & Fortin, M. J. (2017). Incorporating uncertainty into forest management planning: Timber harvest, wildfire and climate change in the boreal forest. *Forest ecology and management*, 400, 542-554.
- Wotton BM, Flannigan MD, Marshall GA (2017). Potential climate change impacts on fire intensity and key wildfire suppression thresholds in Canada. *Environmental Research Letters*, 12(9), 095003.
- Wang X, Wotton M, Cantin A, Parisien M, Anderson K, Moore B, Flannigan M. (2017) cffdrs: An R package for the Canadian Forest Fire Danger Rating System. *Ecological Processes* 6(1) 1-11.
- Aponte C, de Groot WJ, & Wotton BM (2016). Forest fires and climate change: causes, consequences and management options. *International Journal of Wildland Fire*, 25(8), i-ii.
- James P, Robert LE, Wotton BM, Martell DL, Fleming RA (2017). Lagged cumulative spruce budworm defoliation affects the risk of fire ignition in Ontario, Canada. *Ecological applications*, 27(2), 532-544.
- Thompson D, Schiks TJ, Wotton BM (2016) Fuel size impacts on carbon residuals and combustion dynamics in masticated woody debris. *Forest Ecology and Management*, 369, 59-65.
- Schiks TJ, Wotton BM, Turetsky MR, Benscotter BW (2016) Variation in fuel structure in boreal fens. *Canadian Journal of Forest Research*, 46(5), 683-695.
- Flannigan MD, Wotton BM, Marshall GA, de Groot WJ, Johnston J, Jurko N (2016) Fuel moisture sensitivity to temperature and precipitation; Climate change implications. *Climate Change*, 134(1-2), 59-71.
- Kidnie S and Wotton BM (2015) Characterization of the Fuel and Fire Environment in Southern Ontario's Tallgrass Prairie. *International Journal of Wildland Fire* 24(8), 1118-1128.).
- Thompson D, Studens J, Krezek-Hanes C, Wotton BM (2015) The impact of root exclusion on duff moisture and fire danger. *Canadian Journal of Forest Research* 45(8) 978-986

- Johnston DC, Turetsky MR, Benscoter BW, Wotton B.M. (2015) Fuel load, structure and fire behaviour in forested boreal bogs. *Canadian Journal of Forest Research*, 45(7) 888-899
- Schiks T, Thompson D, Wotton BM (2015) Short-term effects of mastication on fuel moisture and thermal regime of boreal fuel beds. *Canadian Journal of Forest Research* 45(7) 867-876
- Lukenbach MC, Hokanson KJ, Devito KJ, Kettridge N, Thompson DK, Moore PA, Wotton BM, Petrone RM, Waddington JM (2015) Hydrological controls on deep burning in a northern forested peatland. *Hydrological Processes* 29(18), 4114-4124. DOI:10.1002/hyp.10440.
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- Thompson D, Wotton M, Waddington M (2015) Heat transfer and the initiation of organic soil combustion during wildfire in forested wetlands. *International Journal of Wildland Fire* 24(1) 120-129. DOI:10.1071/WF12121
- Schiks T, Wotton BM (2014) Modifying the Canadian Fine Fuel Moisture Code for masticated surface fuels. *International Journal of Wildland Fire* 25(1) 79-91 DOI: 10.1071/WF14041
- Schiks T, Wotton BM (2014) Assessing the probability of sustained flaming in masticated fuel beds. *Canadian Journal of Forest Research* 45(1) 68-77, doi: 10.1139/cjfr-2014-0294
- Woolford DG, Dean CB, Martell DL, Ji Guo C, Wotton BM. (2014) Lightning-caused Forest Fire Risk in Northwestern Ontario, Canada is Increasing and Associated with Anomalies in Fire-Weather. *Environmetrics* 25(6) 406-416. DOI: 10.1002/env.2278
- Plucinski MP, McCaw WL, Gould JS, Wotton BM. (2014) Predicting the number of daily human-caused bushfires to assist suppression planning in south-west Western Australia. *International Journal of Wildland Fire*. 23(4):520-31. DOI: 10.1071/WF13090
- Gould JS, Patriquin MN, Wang S, McFarlane B, Wotton B (2013) Economic evaluation of research to improve the Canadian forest fire danger rating system. *Forestry*, 86 (3): 317-329. doi:10.1093/forestry/cps082
- Flannigan MD, Cantin AS, de Groot W, Wotton BM, Newbery A, Gowman LM (2013) Global wildland fire season severity in the 21st century. *Forest Ecology and Management*, 294, 54-61. doi:10.1016/j.foreco.2012.10.022
- Savage, D., Wotton, B.M., Martell, D.L., and Woolford, D.G. (2012). The impact of uncertainty concerning historical burned area estimates on forest management planning. *Forest Science*, 59(5) 578-588. DOI: 10.5849/forsci.11-081
- Linn R, Anderson K, Winterkamp J, Brooks A, Wotton M, Dupuy, J-L, Pimont F, Edminster C. (2012) Incorporating field wind data into FIRE-TEC simulations of the International Crown Fire Modeling Experiment (ICFME): preliminary lessons learned. *Canadian Journal Forest Research*, 42(5):879-898
- Waddington JM, Thompson DK, Wotton BM, Quinton WL, Flannigan MD, Benscoter BW, Baisley SA, Turetsky MR (2012) Examining the utility of the Canadian

- Forest Fire Weather Index System in Canadian boreal peatlands. *Canadian Journal of Forest Research*, 42: 47-58.
- Wotton BM, Gould JS, McCaw WL, Cheney NP, Taylor SW (2012) Flame temperature and residence time of fires in dry eucalypt forest. *International Journal of Wildland Fire*, 22(3) doi: 10.1071/WF10127.
- Podur J and Wotton BM (2011) Defining fire spread event days for fire growth modeling. *International Journal of Wildland*, 20(4) 497-507
- Savage DW, Martell DL, Wotton BM (2011) Forest Management Strategies for Dealing with Uncertainty Due to Fire When Managing Two Forest Seral Stages. *Canadian Journal of Forest Research*. 41(2) 309-320
- Benscotter B, Thompson D, Waddington JM, Wotton BM, Flannigan MD, de Groot WJ, Turetsky M (2011) Smouldering consumption in peatland, *International Journal of Wildland Fire* 20(3), 418-429.
- Braun WJ, Jones BL, Lee JSW, Woolford DG, Wotton BM (2010) Forest Fire Risk Assessment: An Illustrative Example. *Journal of Probability and Statistics*, v2010, Article ID 823018, 26 pages, doi:10.1155/2010/823018
- Savage DW, Martell DL, Wotton BM (2010) The Evaluation of Two Risk Mitigation Strategies for Dealing with Fire-Related Uncertainty in Timber Supply Modelling. *Canadian Journal of Forest Research* 40:1136-1154, doi10.1139/X10-065
- Podur J and Wotton BM. (2010) Will climate change overwhelm fire management capacity? *Ecological Modelling*, 221, 1301-1309
- Wotton BM, Nock CA, Flannigan MD. (2010) Forest Fire occurrence and climate change in Canada. *International Journal of Wildland Fire*, 19(3) 253-271.
- Weise DR, Wotton BM (2010) Wildland–urban interface fire behaviour and fire modelling in live fuels. *International Journal of Wildland Fire*, 19(2), 149-152
- Flannigan MD, Krawchuk MA, de Groot WJ, Wotton BM, Gowman LM (2009) Global wildland fire and climate change. *International Journal of Wildland Fire*, 18(5) 483-507.
- Zhou L, Braun J, Woolford D, Wotton BM (2009) A Simulation Study of Predicting Flush Date. *Communications in Statistics - Simulation and Computation* 38(5): 1071-1082. DOI: 10.1080/03610910902785738
- Woolford D, Stanford DA, Kulperger RJ, Boychuk D, Wotton BM (2009) Erlangian Approximations for the Transient Analysis of a Fluid Queue Model for Forest Fire Perimeter. *INFOR* 47(4) 305-317.
- Wotton BM (2009). Interpreting and using outputs from the Canadian Forest Fire Danger Rating System in research applications. *Environmental and Ecological Statistics*.16(2), 107-131
- Girardin MP, Wotton BM (2009) Summer moisture and wildfire risks across Canada. *Journal of Applied Meteorology and Climatology*, 48: 517-533  
doi:10.1175/2F2008JAMC1996.1
- Flannigan MD, Stocks BJ, Turetsky MR, Wotton BM (2008). Impact of climate change on fire activity and fire management in the circumboreal forest. *Global Change Biology* 14, DOI: 10.1111/j.1365-2486.2008.01660.x
- Wotton BM and Beverly JL (2007). Stand specific litter moisture content calibrations for the Canadian Fine Fuel Moisture Code. *International Journal of Wildland Fire* 16(4):463-472

- Beverly JL and Wotton BM (2007). Modelling the probability of sustained flaming: predictive value of fire weather index components compared with observations of site weather and fuel moisture conditions. *International Journal of Wildland Fire* 16(2):161-173.
- Flannigan MD, Amiro BD, Logan KA, Stocks BJ, Wotton BM (2005). Forest Fire and Climate Change in the 21<sup>st</sup> Century. Mitigation and Adaptation Strategies for Global Change. DIO: 10.1007/s11027-005-9020-7
- Wotton BM and Martell DL (2005). A lightning fire occurrence model for Ontario. *Canadian Journal of Forest Research*, 35(6): 1389-1401.
- Wotton BM, Stocks BJ, Martell DL (2005). An index for tracking sheltered forest floor moisture within the Canadian Forest Fire Weather Index System. *International Journal of Wildland Fire* 13 (2): 169-182.
- Amiro BD, Logan KA, Wotton BM, Flannigan MD, Todd JB, Stocks BJ, Martell DM (2005). Fire weather index system components for large fires in the Canadian boreal forest. *International Journal of Wildland Fire*, 13(1):391-400
- Stocks BJ, Alexander ME, Wotton BM, Stefner CN, Flannigan MD, Taylor SW, Lavoie N, Mason JA, Hartley GR, Maffey ME, Dalrymple GN, Blake TW, Cruz MG, Lanoville RA (2004). Crown fire behaviour in a northern jack pine-black spruce forest. *Canadian Journal of Forest Research*, 34: 1548-1560.
- Taylor SW, Wotton BM, Alexander ME, Dalrymple GN (2004). Variation in wind and crown fire behaviour in a northern jack pine – black spruce forest. *Canadian Journal of Forest Research*, 34:1561-1576.
- de Groot WJ, Bothwell PM, Taylor SW, Wotton BM, Stocks BJ, Alexander ME (2004). Jack pine regeneration and crown fires. *Canadian Journal of Forest Research*, 34:1634-1641.
- Girardin, MP, Tardif J, Flannigan MD, Wotton BM, Bergeron Y (2004). Trends and periodicities in the Canadian Drought Code and their relationships with atmospheric circulation for the southern Canadian boreal forest. *Canadian Journal of Forest Research*, 34(1): 103-119
- Wotton BM, Martell DL, Logan KA (2003) Climate change and people-caused forest fire occurrence in Ontario. *Climatic Change*, 60: 275-295.
- Stocks BJ, Mason JA, Todd JB, Bosch EM, Amiro BD, Flannigan MD, Martell DL, Wotton BM, Logan KA, Hirsch KG (2003) Large forest fires in Canada, 1959-1997. *Journal of Geophysical Research*. (D) 108, 8149, doi:10.1029/2001JD000484.
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- Amiro BD, Stocks BJ, Alexander ME, Flannigan MD, Wotton BM (2001) Fire, climate change, carbon and fuel management in the Canadian boreal forest. *International Journal of Wildland Fire*, 10(3,4): 405-413.
- Ward PC, Tithecott AG, Wotton BM (2001). Reply—A re-examination of the effects of suppression in the boreal forest. *Canadian Journal of Forest Research*, 31: 1467-1480.

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- Dale VH, Joyce LA, Neilson RP, Ayres MP, Flannigan MD, Hanson PJ, Irland LC, Lugo AE, Peterson CJ, Simberloff D, Swanson FJ, Stocks BJ, Wotton BM (2001). Climate change and forest disturbances. *Bioscience*, 51:723-734.
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- Flannigan MD, Wotton BM, Ziga S (1998). A study on the interpolation of fire danger using radar precipitation estimates. *International Journal of Wildland Fire*, 8(4): 217-225.
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- Flannigan MD and Wotton BM (1989). A study of interpolation methods for forest fire danger rating in Canada. *Canadian Journal of Forest Research*, 19:1059-1066.

### **Research Information Reports**

- McFayden CB, Wotton BM, Robinson JW, Johnston JM, Cantin AS, Jurko NM, Boucher J, Wheatley M, Ansell M, Boychuk D, Russo B (2023) Reference Guide to the Drop Effectiveness of Skimmer and Rotary Wing Airtankers. Natural Resources Canada, Canadian Forest Service, Great Lakes Forestry Centre. Information Report GLC-X-35. 181p.



- Hanes CC, Wotton BM, McFayden C, Jurko N (2021) An approach for defining physically based Fire Weather Index System classes for Ontario. Natural Resources Canada, Canadian Forest Service, Great Lakes Forestry Centre. Information Report GLC-X-29. 35p.  
<https://cfs.nrcan.gc.ca/publications/download-pdf/40501>
- Canadian Forest Service Fire Danger Group (2021). An Overview of the Next Generation of the Canadian Forest Fire Danger Rating System (Information Report GLC-X-26). Natural Resources Canada, Canadian Forest Service, Great Lakes Forestry Centre. <https://cfs.nrcan.gc.ca/publications/download-pdf/40474> *Wotton was lead author of this group*
- Schiks TJ, Thompson DK, Hvenegaard S, Schroeder D, Wotton BM (2016). Mulch fuels in boreal forests: structure, moisture, and initial fire behaviour observations. Nat. Resour. Can., Can. For. Serv., North. For. Cent., Edmonton, Alberta. For. Manag. Note 66
- Kidnie SK, Wotton BM, Droog WN (2010). Field Guide for Predicting Fire Behaviour in Ontario's Tallgrass Prairie. Elgin County Stewardship Council Special Publication. Ontario Ministry of Natural Resources, Aylmer, Ontario. 65 p.
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- Born W, Fuglem P, Hirsch KG, Stocks BJ, Taudin-Chabot P, Wang S, Wotton BM (2006). Canadian Wildland Fire Strategy: summary report of the best practices workshop. Pages 83-87 in *Canadian Wildland Fire Strategy: Background synthesis, analysis, and perspectives*. K.G Hirsch and P. Fuglem (editors). Canadian Council of forest Ministers. Natural Resources Canada, Canadian Forest Service, Northern Forestry Centre, Edmonton, Alberta. (*authors are alphabetical*)
- Wotton BM, Logan KA, McAlpine RS (2005). Climate change and the future fire environment in Ontario: fire occurrence and fire management impacts. Ontario Ministry of Natural Resources Climate Research Report CCRR-01.32p.
- Alexander ME, Stefner CN, Mason JA, Stocks BJ, Hartley GR, Maffey ME, Wotton BM, Taylor SW, Lavoie N, Dalrymple GN (2004). Characterizing the jack pine-black

spruce fuel complex of the International Crown Fire Modelling Experiment (ICFME). Canadian Forest Service, Information Report NOR-X-393. 49pp

### **Theses**

BM Wotton (2004). Predicting forest fire occurrence in Ontario. Ph.D. Thesis. University of Toronto.

### **Book chapters**

McFayden CB, Johnston LM, Woolford DG, George C, Johnston D, Boychuk D, Wotton BM, Johnston JM (2023). A Conceptual Framework for Knowledge Exchange in a Wildland Fire Research and Practice Context. In 'Applied Data Science: Data Translators Across the Disciplines'. (Eds D Woolford, D Kotsopoulos, B Samuels) (Springer, Interdisciplinary Applied Sciences).

de Groot, W. J., Wotton, B. M., & Flannigan, M. D. (2015). Wildland Fire Danger Rating and Early Warning Systems. Chapter 11 in *Wildfire Hazards, Risks, and Disasters* D. Patton (editor), Elsevier Inc. , pp 207-228.

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