

ENVIRONMENTAL HEALTH RESEARCH SCAN

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Environmental Health (EH) Research Scan: Aims and Scope

NCCEH's EH Research Scan aims to expand awareness of topics in environmental health, in line with NCCEH's vision to be the indispensable online resource for environmental health practitioners and policy-makers across Canada. "We focus on health risks associated with the physical environment and identify evidence-based interventions to mitigate those risks." This review is not official or peer reviewed. It does not cover all research, news, and information, and NCCEH is not responsible for the accuracy of the content from media or databases. How to access the items? Click on the link related to each entry and it should take you to the item. Not all links are open access; some are abstract links where paid journal subscription is required.

EDITOR PICKS

More than just talk: How the “Tick Talk” works for communicating risk awareness

Anne-Marie Nicol, 2018

“Climate changes are expanding the areas where ticks can survive and thrive across Canada. The number of Canadians contracting tick-borne diseases, such as Lyme Disease and Anaplasmosis, is also increasing. As a result, educating Canadians on how to prevent tick bites is becoming increasingly important.”



Scan of First Nations, Inuit and Metis radon research across the country (CARST 7th Annual Radon Conference – April 24, 2018).

Anne-Marie Nicol

“This presentation details historical radon testing initiatives conducted with First Nations, Inuit and Metis communities across Canada.”



Community champions and radon testing in First Nations communities (CARST 7th Annual Radon Conference – April 24, 2018)

Casey Neathway

This presentation provides an overview of a recent collaborative project, done in conjunction with the First Nations Health Authority that tested radon in communities in the interior of British Columbia.



Marine Water Contamination

British Columbia Centre for Disease Control, Oct 2018

“Marine waters can be negatively impacted by human activities. Marine water contamination risks include chemical, radiation, physical, and microbiological hazards.”



ENVIRONMENTAL HEALTH RESEARCH SCAN

SELECTED STAFF PUBLICATIONS

NCCEH

1. Akunna JC, O'Keeffe JM, Allan R. Reviewing factors affecting the effectiveness of decentralised domestic wastewater treatment systems for phosphorus and pathogen removal. *Desalination and Water Treatment*. 2017;91:40-7. Available from: http://www.deswater.com/DWT_abstracts/vol_91/91_2017_40.pdf.
2. National Collaborating Centre for Environmental Health. Inuit and Metis radon research across the country. Oct 1; Vancouver, BC. Vancouver, BC: National Collaborating Centre for Environmental Health (NCCEH); 2017. Available from: <http://www.ncceh.ca/content/inuit-and-metis-radon-research-across-country>.
3. Neathway C. Community champions and radon testing in First Nations communities (CARST 7th Annual Radon Conference). Apr 24; Vancouver, BC. Vancouver, BC: National Collaborating Centre for Environmental Health (NCCEH) and the First Nations Health Authority; 2018. Available from: http://www.ncceh.ca/sites/default/files/NCCEH_Radon_Neathway_EN.pdf.
4. Nicol A-M. Scan of First Nations, Inuit and Metis radon research across the country (CARST 7th Annual Radon Conference). Apr 24; Vancouver, BC. Vancouver, BC: National Collaborating Centre for Environmental Health (NCCEH); 2018. Available from: http://www.ncceh.ca/sites/default/files/NCCEH%20Overview%20of%20historical%20radon%20testing%20programs%20with%20FN%20communities%20April%202018_EN.pdf.
5. Nicol A-M. More than just talk: How the "Tick Talk" works for communicating risk awareness (Presentation to the Atlantic Tick-Borne Disease Network). May 23; Vancouver, BC. Vancouver, BC: National Collaborating Centre for Environmental Health (NCCEH); 2018. Available from: <http://www.ncceh.ca/content/how-%E2%80%9Ctick-talk%E2%80%9D-works-communicating-risk-awareness>.
6. Steiner L. Fact sheet: Environmental health risks of personal cannabis cultivation. Vancouver, BC: National Collaborating Centre for Environmental Health; 2018 Oct 16. Available from: <http://www.ncceh.ca/documents/guide/fact-sheet-environmental-health-risks-personal-cannabis-cultivation>.
7. Steiner L. Fiche de renseignements: Risques pour la santé environnementale associés à la culture personnelle de cannabis. Vancouver, BC: National Collaborating Centre for Environmental Health; 2018 octobre 16. Available from: <http://www.ccse.ca/documents/guide/fiche-de-renseignements-risques-pour-la-sant%C3%A9-environnementale-associ%C3%A9s-%C3%A0-la-culture>.

BCCDC

1. British Columbia Centre for Disease Control. 2018 norovirus outbreak linked to consumption of BC oysters: evaluation of environmental sewage sources find commercial vessels to be plausible source for contamination of the harvest area. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/2018%20norovirus%20outbreak%20linked%20to%20vessels%20and%20oysters.pdf>.
2. British Columbia Centre for Disease Control. Norwalk-like virus. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/health-info/diseases-conditions/norovirus-norwalk-like-virus/more-resources>.
3. British Columbia Centre for Disease Control. Marine water contamination. Vancouver, BC: BC Centre for Disease Control; 2018; Available from: <http://www.bccdc.ca/health-info/health-your-environment/marine-water-contamination>.

4. Cumming E, McLean K. Descriptive time series of environmental factors for four oyster growing areas in BC from 2002 to April 2017. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/Time%20series%20of%20environmental%20factors%20in%20BC.pdf>.
5. Kosatsky T. Comments from the Medical Director, Environmental Health Services On the occurrence of norovirus in BC-harvested oysters and on means to prevent illness resulting from raw oyster consumption. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/DirectorEH%20commentary%20on%20norovirus%20in%20BC%20marine%20environment.pdf>.
6. Miller A, Cumming E, McIntyre L. Norovirus outbreak stakeholder survey results. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/Norovirus%20Hyp%20Survey%20Results%20Jun%202017.pdf>.
7. Miller A, Cumming E, McIntyre L. Literature review of environmental factors and major sources of sewage affecting norovirus. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/Lit%20review_norovirus_environ%20and%20sewage.pdf.
8. Miller A, Cumming E, McIntyre L, Environmental Transmission of Norovirus into Oysters working group members. Summary Working Group Report of the environmental transmission of norovirus into oysters following. Vancouver, BC: BC Centre for Disease Control; 2018 Sep. Available from: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/ETNO%20Full%20Report.pdf>.
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NCCEH e-News (French and English)

1. Centre de collaboration nationale en santé environnementale. e-Nouvelles du CCNSE: Nouvelle fiche de renseignements : Risques pour la santé environnementale associés à la culture personnelle de cannabis; Revue des données probantes : risques pour la santé et la sécurité associés à la culture personnelle de cannabis à domicile; Ressources sur le cannabis pour les praticiens en santé environnementale; plus... . Vancouver, BC: CCNSE; 2018 septembre. Available from: <https://tinyurl.com/ycrxku3v>.
2. National Collaborating Center for Environmental Health. NCCEH eNews: New fact sheet: environmental health risks of personal cannabis cultivation; evidence review – growing at home: health and safety concerns for personal cannabis cultivation; cannabis resources for environmental health practitioners; more... . Vancouver, BC: NCCEH; 2018 Oct. Available from: <https://tinyurl.com/ya3958tr>.

INDIGENOUS ENVIRONMENTAL HEALTH

1. Arctic Council. AMAP Assessment 2018: Biological Effects of Contaminants on Arctic Wildlife and Fish. Arctic Monitoring and Assessment Programme (AMAP). Tromsø, Norway: AMAP; 2018 Oct. Available from: <https://www.amap.no/documents/doc/amap-assessment-2018-biological-effects-of-contaminants-on-arctic-wildlife-and-fish-pre-print/1663>.

2. Gordon Foundation. Recommendations on Country/Traditional Food from the Northern Policy Hackathon. Nain, Nunatsiavut: Gordon Foundation; 2018. Available from: <http://gordonfoundation.ca/app/uploads/2018/01/Northern-Policy-Hackathon-Digital.pdf>.
3. Rapinski M, Cuerrier A, Harris C, Elders I, Elders K, Lemire M. Inuit Perception of Marine Organisms: From Folk Classification to Food Harvest. *J Ethnobiol*. 2018 Oct;38(3):333-55. Available from: <Go to ISI>://WOS:000445897700003.

AGRICULTURAL OPERATIONS

BIOLOGICAL AGENTS

BUILT ENVIRONMENT

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2. Institut national de santé publique. Tools to assess the characteristics of the built environment in relation to health. Montreal, QC: INSPQ; 2018 Sep. Available from: <https://www.inspq.qc.ca/nouvelles/des-outils-pour-evaluer-les-caracteristiques-de-l-environnement-bati-en-lien-avec-la-sante>.
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5. Phipps E, Centre de collaboration nationale des déterminants de la santé. Vers des habitations salubres pour tout le monde : Incidence des constatations de LogementSain sur la santé publique au Canada. Antigonish, NS: Centre de collaboration nationale des déterminants de la santé, Université St. Francis Xavier; 2018. Available from: <http://nccdh.ca/fr/resources/entry/towards-healthy-homes-for-all-what-the-rentsafe-findings-mean-for-public-he>.
6. Phipps E, National Collaborating Centre for Determinants of Health. Towards healthy homes for all: What the RentSafe findings mean for public health in Canada. Antigonish, NS: National Collaborating Centre for Determinants of Health, St. Francis Xavier University; 2018. Available from: <http://nccdh.ca/resources/entry/towards-healthy-homes-for-all-what-the-rentsafe-findings-mean-for-public-he>.
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CHEMICAL AGENTS – METALS, GENERAL

General

CHEMICAL AGENTS - PESTICIDES

1. Li Z. Variation of United States environmental regulations on pesticide soil standard values. *Journal of Chemical Health and Safety*. 2018 2018/09/01;25(5):28-38. Available from: <http://www.sciencedirect.com/science/article/pii/S187155321830029X>.

CHEMICAL AGENTS – SHALE GAS

1. Geeza TJ, Gillikin DP, McDevitt B, Van Sice K, Warner NR. accumulation of marcellus formation oil and gas wastewater metals in freshwater mussel shells. *Environ Sci Tech*. 2018 2018/09/18;52(18):10883-92. Available from: <https://doi.org/10.1021/acs.est.8b02727>.

CHILDREN'S ENVIRONMENTAL HEALTH

1. Landrigan PJ, Fuller R, Fisher S, Suk WA, Sly P, Chiles TC, et al. Pollution and children's health. *Sci Total Environ*. 2019;650:2389-94. Available from: <https://www.sciencedirect.com/science/article/pii/S0048969718338543>.
2. Tillmann S, Tobin D, Avison W, Gilliland J. Mental health benefits of interactions with nature in children and teenagers: a systematic review. *J Epidemiol Community Health*. 2018;72(10):958-66. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29950520>.

CLIMATE CHANGE

1. Benmarhnia T, Alexander S, Price K, Smargiassi A, King N, Kaufman JS. The heterogeneity of vulnerability in public health: a heat wave action plan as a case study. *Critical Public Health*. 2018 2018/10/20;28(5):619-25. Available from: <https://doi.org/10.1080/09581596.2017.1322176>.
2. Butler C. Climate Change, Health and Existential Risks to Civilization: A Comprehensive Review (1989–2013). 2018;15(10):2266. Available from: <http://www.mdpi.com/1660-4601/15/10/2266>.
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4. McGreavy B, Randall S, Quiring T, Hathaway C, Hillyer G. Enhancing adaptive capacities in coastal communities through engaged communication research: Insights from a statewide study of shellfish co-management. *Ocean & Coastal Management*. 2018 Sep;163:240-53. Available from: <https://www.sciencedirect.com/science/article/pii/S0964569117306968>.
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6. Zeuli K, Nijhuis A, Macfarlane R, Ridsdale T. The Impact of Climate Change on the Food System in Toronto. 2018;15(11):2344. Available from: <http://www.mdpi.com/1660-4601/15/11/2344>.

COMMUNICABLE AND INFECTIOUS DISEASES

1. Patel KV, Bailey CL, Harding AH, Biggin M, Crook B. Background levels of micro-organisms in the busy urban environment of transport hubs. *J Appl Microbiol*. 2018 11//;125(5):1541-51. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30091191>.
2. Short KR, Kedzierska K, van de Sandt CE. Back to the Future: Lessons Learned From the 1918 Influenza Pandemic. *Frontiers in cellular and infection microbiology*. 2018 2018-October-08;8(343). Available from: <https://www.frontiersin.org/article/10.3389/fcimb.2018.00343>.

DRINKING WATER

1. Verani M, Federigi I, Donzelli G, Cioni L, Carducci A. Human adenoviruses as waterborne index pathogens and their use for Quantitative Microbial Risk Assessment. *Sci Total Environ*. 2019;651:1469-75. Available from: <https://www.sciencedirect.com/science/article/pii/S004896971833746X>.

EMERGENCY PREPAREDNESS

1. Mema SC, Sage C, Xu Y, Tupper KW, Ziemianowicz D, McCrae K, et al. Drug checking at an electronic dance music festival during the public health overdose emergency in British Columbia. 2018 September 24. Available from: <https://doi.org/10.17269/s41997-018-0126-6>.
2. Paterson DL, Wright H, Harris PNA. Health risks of flood disasters. *Clin Infect Dis*. 2018;67(9):1450-4. Available from: <https://academic.oup.com/cid/article/67/9/1450/4945455>.
3. Paveglio T, Edgeley C. Community diversity and hazard events: understanding the evolution of local approaches to wildfire. *J Natural Hazards*. 2017;87(2):1083-108.

ENVIRONMENTAL HEALTH SURVEILLANCE

ENVIRONMENTAL PLANNING

1. Markovich J, Dinh T, D'Angelo MS. Community wellbeing: A framework for the design professions. Ottawa, ON: Conference Board of Canada; 2018 Jul. Available from: <https://tinyurl.com/yadja3aq>.
2. Sicard P, Agathokleous E, Araminiene V, Carrari E, Hoshika Y, De Marco A, et al. Should we see urban trees as effective solutions to reduce increasing ozone levels in cities? *Environ Pollut*. 2018;243:163-76. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30172122>.
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FOOD

Safety

1. Clark GG, Jamal R, Weidhaas J. Roofing material and irrigation frequency influence microbial risk from consuming homegrown lettuce irrigated with harvested rainwater. *Sci Total Environ*. 2019;651:1011-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30266046>.
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Security

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Organic

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GENERAL

1. Public Health England. Guidance. Improving people's health: applying behavioural and social sciences. London, UK: Public Health England; 2018 Oct. Available from: <https://www.gov.uk/government/publications/improving-peoples-health-applying-behavioural-and-social-sciences>.

HEALTH EQUITY

1. Canadian Institute for Health Information. Measuring health inequalities: A toolkit — supplementary resources. Ottawa, ON: CIHI; 2018 Oct. Available from: <https://www.cihi.ca/sites/default/files/document/cphi-toolkit-supplementary-resources-en-web.pdf>.
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HEALTH IMPACT ASSESSMENT

1. Canadian Nurses Association. Toolkit: Health in all policies; health impact assessment; equity-focused health impact assessment; equity-focused health impact assessment. Ottawa, ON: CNA; Available from: <https://cna-aiic.ca/en/nursing-practice/tools-for-practice/health-in-all-policies-toolkit/toolkit>.

INDOOR AIR

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NUISANCE CONTROL

OUTDOOR AIR

1. Anenberg SC, Henze DK, Tinney V, Kinney PL, Raich W, Fann N, et al. Estimates of the global burden of ambient PM_{2.5}, Ozone, and NO₂ on asthma incidence and emergency room visits. *Environ Health Perspect*. 2018;126(10):107004. Available from: <https://doi.org/10.1289/EHP3766>.
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5. Sun Z, Chen C, Xu D, Li T. Effects of ambient temperature on myocardial infarction: A systematic review and meta-analysis. *Environmental Pollution (Barking, Essex: 1987)*. 2018;241:1106-14. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30029319>.

PERSONAL SERVICE ESTABLISHMENTS

PEST CONTROL

PHYSICAL AGENTS

1. Institut national de santé publique. A new guide to prevent the effects of environmental noise. Montreal, QC: INSPQ; 2018 Sep. Available from: <https://www.inspq.qc.ca/nouvelles/un-nouveau-guide-pour-prevenir-les-effets-du-bruit-environnemental>.
2. World Health Organization. Environmental noise guidelines for the European region. Copenhagen, Denmark: WHO Regional Office for Europe; 2018. Available from: <http://www.euro.who.int/en/health-topics/environment-and-health/noise/publications/2018/environmental-noise-guidelines-for-the-european-region-2018>.
3. World Health Organization. Environmental noise guidelines for the European region - executive summary. Copenhagen, Denmark: WHO Regional Office for Europe; 2018. Available from: <http://www.euro.who.int/en/health-topics/environment-and-health/noise/publications/2018/environmental-noise-guidelines-for-the-european-region-executive-summary-2018>.

RADIATION

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2. Gordon K, Terry P, Liu X, Harris T, Vowell D, Yard B, et al. Radon in Schools: A Brief Review of State Laws and Regulations in the United States. 2018;15(10):2149. Available from: <http://www.mdpi.com/1660-4601/15/10/2149>.
3. Guxens M, Vermeulen R, Steenkamer I, Beekhuizen J, Vrijkotte TGM, Kromhout H, et al. Radiofrequency electromagnetic fields, screen time, and emotional and behavioural problems in 5-year-old children. *Int J Hyg Environ Health*. 2018 2018/10/09/. Available from: <http://www.sciencedirect.com/science/article/pii/S1438463918305029>.
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RECREATIONAL AND SURFACE WATER

1. Gordy MA, Cobb TP, Hanington PC. Swimmer's itch in Canada: a look at the past and a survey of the present to plan for the future. *Environ Health*. 2018 October 25;17(1):73. Available from: <https://doi.org/10.1186/s12940-018-0417-7>.
2. O'Flaherty E, Solimini A, Pantanella F, Cummins E. The potential human exposure to antibiotic resistant-*Escherichia coli* through recreational water. *Sci Total Environ*. 2019;650(Pt 1):786-95. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30308854>.

RISK ASSESSMENT, COMMUNICATION

SENIORS' ENVIRONMENTAL HEALTH

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TOBACCO, CANNABIS (note – several other papers are available for emergency visits, poisonings... please contact michele.wiens@bccdc.ca)

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