

Submitted Abstract

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First Author First Name Last Name	Kate (1) Hanly
Submitting Author First Name Last Name	Kate Hanly
Correspondence	khanly@ucalgary.ca
Co-Authors >> E-Mails will be not listed	Mcdowell, Graham (2)
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Abstract

In Canada, the 4th most mountainous country in the world, mountains are important elements of the landscape, covering a staggering 2.26 million² kilometres, and to the identity of Canadians, representing old and new relationships between mountains and people. However, our understanding of the state of research in Canada's mountain systems is limited by a deficit in systematically collated information on when, what, where, and by whom mountain-related research has, and is, occurring. This limits our ability to synthesize key concepts, pinpoint research needs, and identify evidence that can inform practice and policymaking. As part of the larger Canadian Mountain Assessment seeking to clarify what we know, do not know, and need to know about Canada's mountain systems, this paper presents a systematic scoping review of English and French language peer-reviewed literature on the mountain research in Canada, published between 1900-2021. The intent is not a disciplinary nor topical focus, but instead aims to identify all potentially relevant articles focused on Canadian mountain systems, defined by the K1 classification and all biological, physical, social processes, and relationships therein. 26,727 potentially relevant articles were identified, of which 2902 were included for full review. Results indicate that mountain research in Canada has increased over the last 121 years, with an average increase in publications of 85% per decade over the last 5 decades. The most studied mountain-related topic was found to be Ecosystems, biodiversity, and wildlife (40%), followed by Ice and snow (17%). The least studied, representing a concerning and substantial gap in the literature, was found to be Adaptation (0.07%), followed by Governance (0.21%). This research has overwhelming occurred within the Montane Cordillera (52%) and to a lesser degree, the Pacific Maritime (21%) and Boreal Cordillera (16%). The Taiga Cordillera (0.08%) and Interior Hill North (0.08%) represent the least studied Canadian mountain regions. Reflecting this geographic disparity, the most prolific scholars conducting Canadian mountain research predominately work at universities (85% of top 20 publishers), in western Canada (35% Alberta, 25% British Columbia) with few located in eastern Canada (15% Quebec, 5% Ontario). Our study represents the first attempt at systematically identifying and analysing all existing mountain-related research in Canada, providing a much-needed assessment of the state of Canadian mountain research. In doing so, we identify critical shortcomings in the literature, discuss their consequences, and make recommendations for future research that will more fully address the research needs of Canadian mountain systems.