Fifty years of Environmental Geoscience in Atlantic Canada

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Atlantic Canada has a rich history of environmental geoscience research, consulting, teaching and outreach much of which has been published in the Journals Marine Geology and Atlantic Geology. Environmental geoscience broadly involves applying an earth systems science approach to the solution of environmental issues as they apply to human affairs. Throughout the 1960s and 1970s much environmental geoscience activity was catalyzed by resource development, major energy developments and regional mapping initiatives. This activity led to a surge in Quaternary environmental research for which the Atlantic Provinces has become internationally known. This work has advanced the fundamental understanding of the geotechnical properties of glacial sediments, exploration in glaciated terrain and the timing and magnitude of climate change events of global significance. Work on natural hazards (mass wasting, tsunamis, sea level rise, subsidence, ARD) became significant in the 1990s and has led to a number of important publications and recognition that both the onshore and offshore landscape of Atlantic Canada is dynamic and prone to substantial environmental impact. The environmental impact of resource extraction and processing in Atlantic Canada is significant. Important research, in particular by the consulting community has taken place on the mitigation and management of the environmental impact from past practices, especially coal and precious metal mining. Applied hydrogeological and geochemical research has done much to advance our understanding of the impact of highly varied geology on water quality and metals in the environment. Of note as well is recent research on radon and arsenic in Nova Scotia and New Brunswick and lead in Newfoundland. Looking towards the future, Atlantic Canada has developed significant capacity in applied geomatics and geophysical research and projects focused on ocean mapping, contaminant transfer, subsidence, eutrophication to name but a few have gained national recognition and led to the development of innovative technologies.

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