

## The history of geothermal research in Canada

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Scientific programs related to geothermal systems (geothermics) had been underway for many years in Canada. Early heat flow measurements were made by groups at the Universities of Toronto and Western Ontario . A geothermal research group was established in 1962 at the Dominion Observatory in Ottawa, later renamed Earth Physics Branch (EPB) (Jessop 2008). Within that research group, heat flow and heat generation were measured in many areas of Canada. This research was spurred on by the oil crises of the early 1970 (REFERENCE). The oil crisis garnered additional funding and interest among government, academics and the private sector for geothermal research in Canada as well as the inception of the Canadian Geothermal Association (now known as Geothermal Canada) in 1974. By 1976 the thermal regime of the crust was known in a broad regional manner, and equipment was available for detailed surveys of specific localities (Jessop et al. 1976). Volcanology had long been a part of the activities of the Geological Survey of Canada (GSC). Volcanic centres of the major volcanic belts had been mapped over many years (Hickson 1990) and known hot springs within the Canadian Cordillera had been sampled and documented (Grasby et al. 2000).

Scientific staff of EPB and GSC had worked together on projects of scientific geothermics since 1965, and they began to cooperate on projects related to geothermal resources in early 1974. In the winter of 1974 the GSC and EPB, both branches within the Department of Energy, Mines and Resources (now Natural Resources Canada) began a small-scale investigation into the potential for geothermal energy in Canada. In 1976 the Department of Energy Mines and Resources initiated The Geothermal Energy Program (Jessop 2008). This program ran from April 1st 1976 to March 31st 1986. In British Columbia funding continued to support geothermal research activities until 1992. Although the national program had ended, funding in BC supported thesis work (Hickson 1987), geochemistry (Grasby et al. 2000) and heat flow investigations (c.f., Majorowicz et al 2005). The final publication of the program was the geothermal resources map of British Columbia (Fairbank et. al. 1992).

The history of Canadian geothermal research, spearheaded by the Canadian Government institutions is summarized in this presentation (Jessop et al. 1978, Jessop et al. 1984, Jessop 1985, Hickson 1987, Hickson 1990, Jessop et al. 1991, Jessop et al. 1991, Fairbank 1992, Jessop 1995, Grasby et al. 2000, Majorowicz et al. 2005, Dunn 2008, Jessop 2008, Thompson 2010, Grasby et al. 2011, Proenza et al. 2012, Richter et al. 2012, Hickson 2019, Hickson et al. 2021, Hickson et al. 2021) The increasing roll of Canadians in geothermal research and development, as well as the increased institutional research is chronicled in a number of publications over the years (Jessop 1985, Jessop et al. 1991, Jessop et al. 1991, Jessop 1995, Grasby et al. 2000, Dunn 2008, Jessop 2008, Thompson 2010, Grasby et al. 2011, Proenza et al. 2012, Richter et al. 2012, Hickson 2019, Hickson et al. 2021, Hickson et al. 2021). For another perspective on Canadian involvement in geothermal research and development outside of Canada see (Hickson et al. 2024)

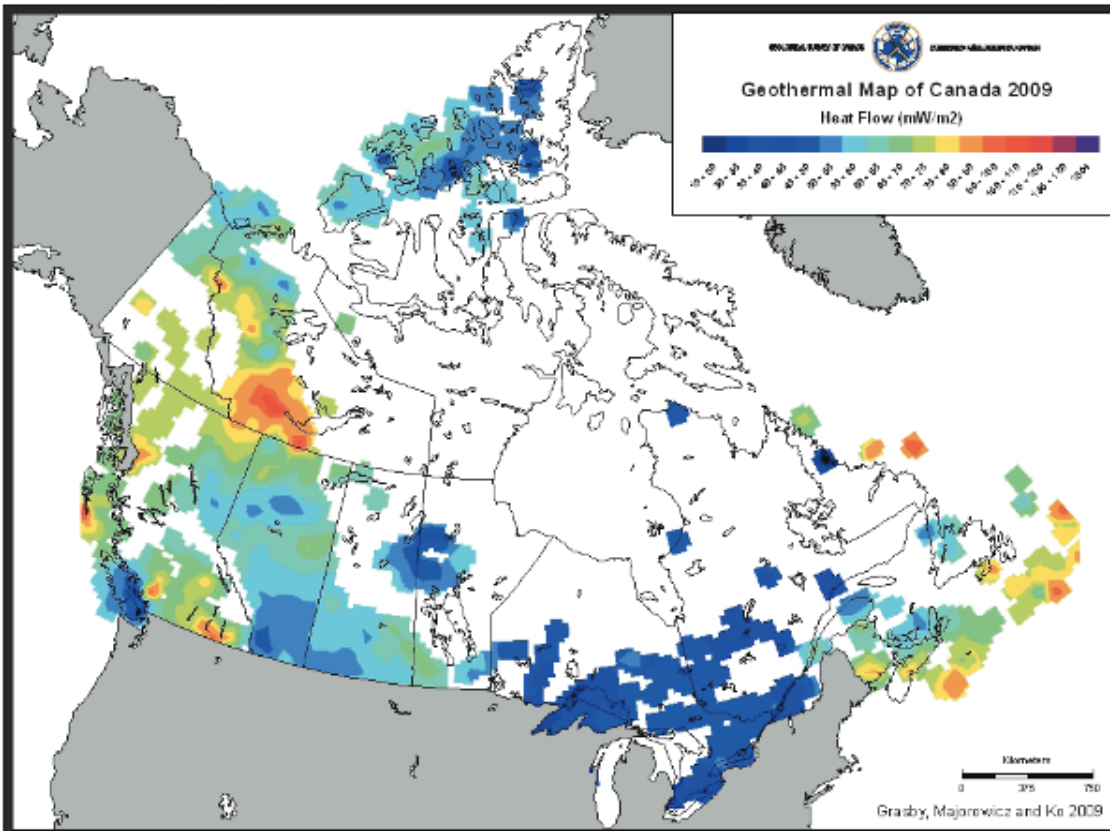


Figure 1: This heat flow map of Canada compiled by Grasby et al. (2009) presents the state of knowledge at that time – compiling data from nearly 40 years of research. .

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