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**Norwegian Institute for Air Research**

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**RE: Partnership in the project THAW: “Trends and Hazards in Arctic Warming: Climate change and greenhouse gas emissions from Arctic permafrost regions”**

Thank you for the invitation to participate as a partner in the proposed project **THAW** coordinated by Norwegian Institute for Air Research. I gladly accept this invitation and I am looking forward to collaboration.

The Geological Survey of Canada (GSC), Natural Resources Canada is the country’s premier agency for geoscientific information and research. A key objective of our research programs is characterization of the northern land mass and how it is changing and to explain why these changes are occurring. This research supports sound decision making regarding development of natural resources and enables a better understanding of the impacts of climate change. Permafrost is an important component of the northern landscape and a component of our research is focused on improved understanding of how permafrost will respond to changes in climate, characterizing the impact of these changes and providing key information to support the development of strategies to adapt to these changes. Since the mid 1980s GSC and its partners have developed and maintained a permafrost monitoring network that now consists of over 100 field sites. Information has been generated that has facilitated development of a current snapshot of permafrost thermal state and changes over the last three decades, contributing to an International Polar Year project with results published in a special issue of Permafrost and Periglacial Processes in June 2010. The Canadian network contributes to the Global Terrestrial Network for Permafrost for which the GSC plays a coordinating role. Data generated by our network will be an important contribution to WP1, Permafrost thermal dynamics and sensitivity. In particular we will contribute to the analysis of observed ground temperature changes (Task 1). These data can also support model development and validation (Task 2 and 3) that will allow for improved predictions of the impact of changing permafrost conditions on greenhouse gas fluxes. About 25% of the permafrost in the Northern Hemisphere is within Canada and the provision of information regarding permafrost conditions in Canada will be essential for development of pan-Arctic permafrost models.

We confirm that we will participate as a partner in the THAW project without being a contractor. Our participation will involve provision of permafrost thermal data and expertise with respect to Canadian permafrost conditions. I wish you success with your application and look forward to contributing to this project.

Best regards,

Sharon Smith, Ph.D.  
Permafrost Research Scientist, Geological Survey of Canada

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