

tion Agency has radon potential maps for each state and the Maine data can be extrapolated into New Brunswick and the Maritime Provinces. As a component of the North American Soil Geochemical Landscape Project, soil radon measurements were made at each site, complimented by radiometric measurements within the soil pit. This data will aide in the compilation of a radon potential map for Canada. With a little over 100 sites randomly selected and covering all of New Brunswick the radon distribution closely (and as expected) reflects the province's bedrock geology.

A simultaneous radon-in-soil and indoor radon survey was carried out in the larger Fredericton area during the fall of 2007. Results show regional consistency, but for individual homes there is no correlation between soil and indoor radon. Type of construction, overburden thickness and texture, and water table depth are some of the variables that influence local radon migration and levels. During the winter/spring of 2010 a radon/thoron survey was carried out in the Fredericton area to determine the contribution of thoron to the overall indoor radiation budget. Radon measurements between the different surveys with different survey methodologies in the same residences correlate quite well.

One of Health Canada's recommendations is that every home should have a radon test carried out to assess the overall radiation risk. The significant potential for above-guideline radon levels is relatively easy to counteract with minor measures and costs. Minimizing porosity, sealing cracks and conduits, and increasing air movement are some of the simple less expensive ways to "keep radon out".

Radon surveys as part of the North American Soil Geochemical Landscape Project and a Health Canada sponsored radon/thoron survey in the urban environment

A.G. PRONK¹, JING CHEN², MICHAEL A. PARKHILL³,
 REX BOLDON¹, AND MARC DESROSIERS³

1. Geological Surveys Branch, New Brunswick Department of Natural Resources, P.O. Box 6000, Fredericton, New Brunswick E3B 5H1, Canada <toon.pronk@gnb.ca> ¶ 2. Radiation Protection Bureau, Health Canada, 775 Brookfield Road, Ottawa, Ontario K1A 1C1, Canada ¶ 3. Geological Surveys Branch, New Brunswick Department of Natural Resources, P.O. Box 50, Bathurst, New Brunswick E2A 3Z1 Canada

Naturally occurring isotopes of radon, Rn-222 (radon gas), and Rn 220 (thoron gas), are present in rocks, soil, and in the atmosphere and find their way into our homes. The Health Canada indoor radon guideline was lowered to 200 Bq/m³ in 2007 (down from the 1988 guideline of 800 Bq/m³). Radon is the second largest contributing factor to lung cancer after smoking. The gas typically finds its way from the rock and soil, through cracks, conduit entries, and porous basement wall and floor materials, into our homes. The Environmental Protec-