

Mapping the geologic radon potential in Canada

Methodology and design

Radon Environmental Management Corp. created a radon potential map for Canada in a similar format to the published radon potential maps available for the United States. Prior to this presentation, a national radon potential map for Canada did not exist.

An initial review of the process and rationale used to create the US radon potential maps, together with the available information that could be used to construct a similar product for Canada, helped define the methodology. Several data sources common to both Canada and the United States were identified and their relationship to the three radon potential classes in the US was evaluated. Geology, geophysics and geochemical survey information was available for the US and Canada. Not all surveys covered all of Canada, but all of Canada was covered by at least one of the information types.

Geological units form the basic framework for our radon potential map. Geology is an important factor in determining the source and potential distribution of radon. GIS processing was used to evaluate each rock unit contained in the geology dataset with respect to its US Radon Potential Classification, its uranium geochemistry and its radiometric geophysical response. These three major parameters were then used to classify the Canadian landmass.

The provincial and territorial maps in this series utilize a different colour palette from the national map. Each zone is attributed a shade of red, communicating necessary testing for radon regardless of location due to the multitude of factors contributing to its presence in an enclosed environment. This map conforms to greyscale interpretation.

Radon gas is produced by the decay of naturally occurring radioactive elements, such as radium and uranium, which are present in all rocks and soils.








Additional resources

The **Radon Atlas of Canada** is due to be published by Radon Environmental in 2012. It contains additional data including: case studies, population density overlays, mapping of isolated population centres such as First Nations Reserves, uranium-thorium mineral occurrences, and glacial/material data. Ordering information will be available at www.radoncorp.com.



Radon Potential Map British Columbia

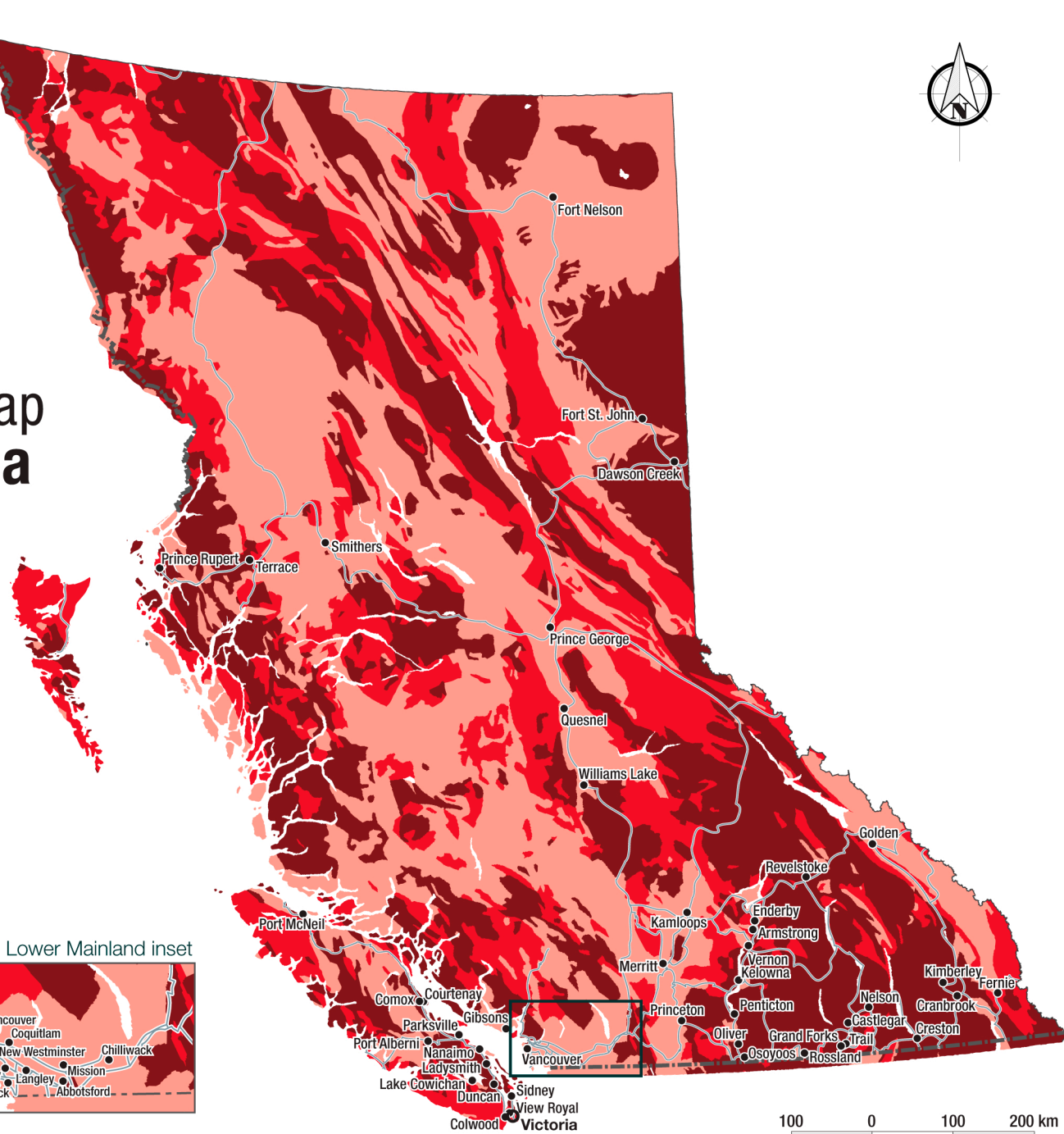
Relative Radon Hazard*

-  Zone 1 – High
-  Zone 2 – Elevated
-  Zone 3 – Guarded
-  Provincial capital
-  Major city
-  Major road/highway
-  International boundary

***Important:** All dwellings need to be tested for radon; a wide spectrum of radon readings can occur in all three zones.

In this map, the regions depicted reflect geologic conditions where higher radon readings might be found in Zone 1 versus Zone 2 and Zone 3 respectively.

Lower Mainland inset



100 0 100 200 km