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Wisconsin Indoor Radon Data: 2010 Report of Data

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Open-File Report 2012-01

2 p. + data file (tab-delimited text)

This report represents work performed by the Wisconsin Geological and Natural History Survey and colleagues and is released to the open files in the interest of making the information readily available. This report has not been edited or reviewed for conformity with the Wisconsin Geological and Natural History Survey standards and nomenclature.

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Since 1986, the Radiation Protection Section of the Wisconsin Department of Health Services and the Wisconsin Geological and Natural History Survey have acquired over 116,000 individual indoor radon measurements which are presented in the attached text file. These data were initially collected in support of radon risk assessment maps for Wisconsin. The data were updated in 2010 in preparation of relative radon risk maps by zip code. The maps generated using these data may be viewed at <http://lowradon.org>.

A preliminary geologic analysis of the data is given by Mudrey (2006).

Data sources

- Individual home owners
- Wisconsin Extension County Surveys
- Commercial laboratories
- U.S. Environmental Protection Agency

About the data

Some of the data have associated mail addresses; those have been geocoded. Each entry within this subset (99,513 non-replicated, short-term carbon-based measurements in residences) consists of the following data:

Column(s)	Data element	Data type
1	ID1	Unique identifier
2	ZIPCODE	Zip code
3-4	WTM_X, WTM_Y	Location using Wisconsin Transverse Mercator coordinates in meters. The coordinates have been rounded to the closest 10 meters to protect the precise location of individual measurements.
5	RADON_PCI/L	Radon value in picocuries per liter (pCi/L)

Limitations of the data

Limitations to the data include, locational uncertainty, duplicate, confirmatory and post-remedial measurements, location of detector in home, and sampling protocol.

The data are most useful in defining at a regional scale the percentage of homes having a particular range of radon. Year-average main-floor radon levels for individual houses in a random survey of 1100 houses in Wisconsin were typically 40% of the corresponding basement short-term measurement. They ranged from 10% to 100% of the basement short-term results, with the distribution peaking at 40%, the average.

References

Mudrey, M.G., Jr., 2006, Statistical analysis of indoor radon data and relationships to geology in Wisconsin: Wisconsin Geological and Natural History Survey Open-File Report 2006-03, 33 p.

Wisconsin Department of Health Services, Radon information for Wisconsin, website: <http://lowradon.org>, accessed November 29, 2011.