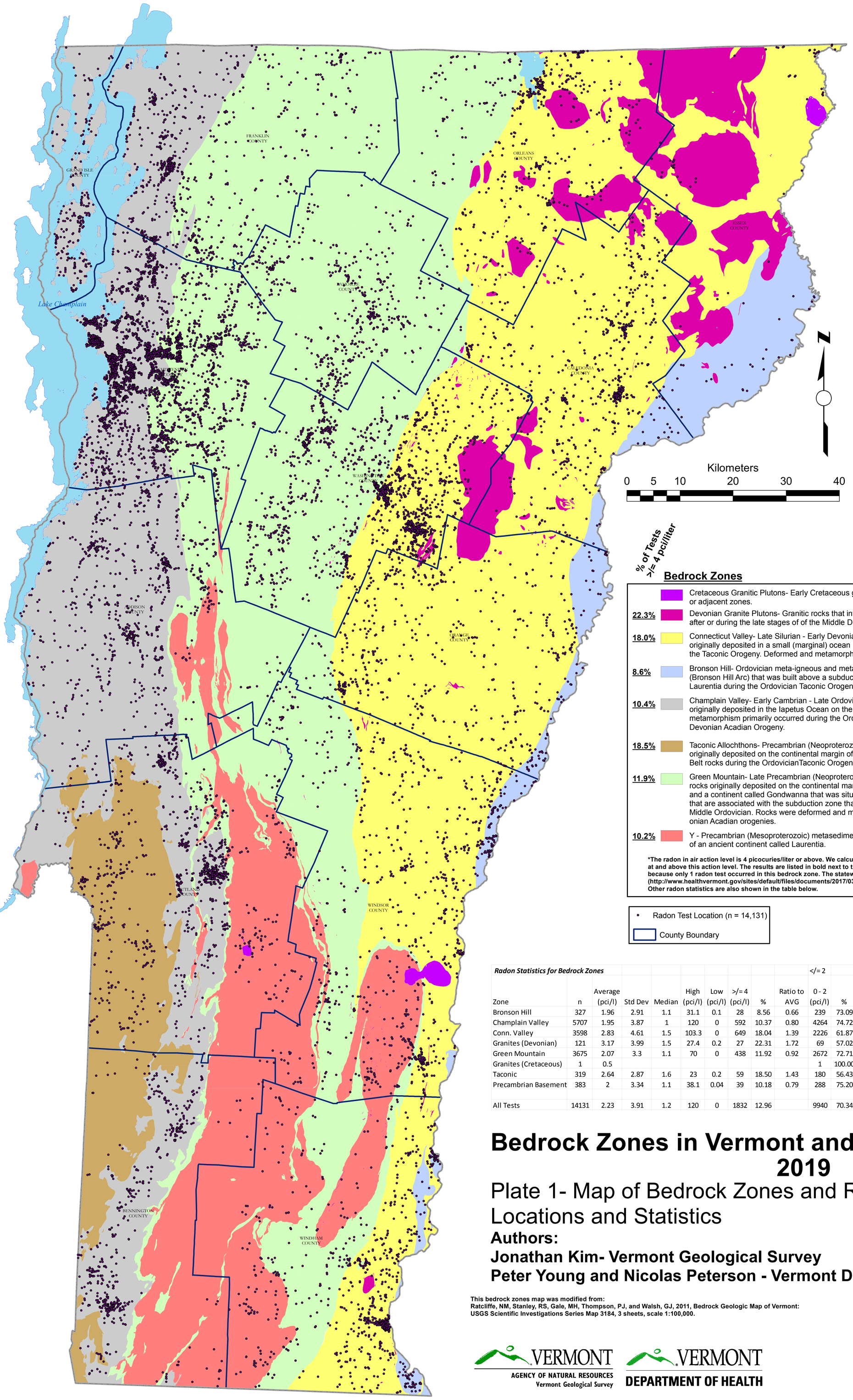

% of Tests >= 4 pci/liter

Bedrock Zones

		Cretaceous Granitic Plutons- Early Cretaceous granitic rocks that intruded into the Connecticut Valley Zone or adjacent zones.
22.3%		Devonian Granite Plutons- Granitic rocks that intruded into the Connecticut Valley Zone and adjacent zones after or during the late stages of of the Middle Devonian Acadian Orogeny.
18.0%		Connecticut Valley- Late Silurian - Early Devonian meta-sedimentary and meta-igneous rocks that were originally deposited in a small (marginal) ocean basin that formed on Green Mountain Zone rocks after the Taconic Orogeny. Deformed and metamorphosed by the Devonian Acadian Orogeny.
8.6%		Bronson Hill- Ordovician meta-igneous and meta-sedimentary rocks that represent an island complex (Bronson Hill Arc) that was built above a subduction zone in the Iapetus Ocean.This arc collided with Laurentia during the Ordovician Taconic Orogeny.
10.4%		Champlain Valley- Early Cambrian - Late Ordovician weakly-metamorphosed sedimentary rocks that were originally deposited in the Iapetus Ocean on the continental shelf of Laurentia. Although deformation and metamorphism primarily occurred during the Ordovician Taconic Orogeny, this belt was also affected by the Devonian Acadian Orogeny.
18.5%		Taconic Allochthons- Precambrian (Neoproterozoic) to Late Ordovician low-grade metamorphic rocks originally deposited on the continental margin of Laurentia and thrust westward over the Champlain Valley Belt rocks during the OrdovicianTaconic Orogeny.
11.9%		Green Mountain- Late Precambrian (Neoproterozoic) to Ordovician metasedimentary and meta-igneous rocks originally deposited on the continental margin of Laurentia as the Iapetus Ocean formed between it and a continent called Gondwanna that was situated to the east (present coordinates). Includes the rocks that are associated with the subduction zone that consumed the Iapetus Ocean from the Late Cambrian - Middle Ordovician. Rocks were deformed and metamorphosed during the Ordovician Taconian and Devonian Acadian orogenies.
10.2%		Y - Precambrian (Mesoproterozoic) metasedimentary and meta-igneous rocks that represent the core of an ancient continent called Laurentia.

***The radon in air action level is 4 picocuries/liter or above. We calculated the percentage of radon tests in each bedrock zone that were at and above this action level. The results are listed in bold next to the color legend. No value is shown for Cretaceous Granite Plutons because only 1 radon test occurred in this bedrock zone. The statewide average for 14,131 tests is 13.0%. See table below. (http://www.healthvermont.gov/sites/default/files/documents/2017/03/ENV_HH_RadonInYourHomeFactsheet.pdf) Other radon statistics are also shown in the table below.**

- Radon Test Location (n = 14,131)
- County Boundary

Radon Statistics for Bedrock Zones

										</= 2		2<x<4		4</=x</=10		10<x</=20		>20	
Zone	n	Average (pci/l)	Std Dev	Median	High (pci/l)	Low (pci/l)	>/= 4 (pci/l)	%	Ratio to AVG	0 - 2 (pci/l)	%	2-4 (pci/l)	%	4-10 (pci/l)	%	10-20 (pci/l)	%	>20 (pci/l)	%
Bronson Hill	327	1.96	2.91	1.1	31.1	0.1	28	8.56	0.66	239	73.09	60	18.35	22	6.73	4	1.22	2	0.61
Champlain Valley	5707	1.95	3.87	1	120	0	592	10.37	0.80	4264	74.72	851	14.91	472	8.27	90	1.58	30	0.53
Conn. Valley	3598	2.83	4.61	1.5	103.3	0	649	18.04	1.39	2226	61.87	722	20.07	487	13.54	124	3.45	38	1.06
Granites (Devonian)	121	3.17	3.99	1.5	27.4	0.2	27	22.31	1.72	69	57.02	25	20.66	20	16.53	5	4.13	2	1.65
Green Mountain	3675	2.07	3.3	1.1	70	0	438	11.92	0.92	2672	72.71	565	15.37	345	9.39	75	2.04	18	0.49
Granites (Cretaceous)	1	0.5								1	100.00								
Taconic	319	2.64	2.87	1.6	23	0.2	59	18.50	1.43	180	56.43	80	25.08	50	15.67	7	2.19	2	0.63
Precambrian Basement	383	2	3.34	1.1	38.1	0.04	39	10.18	0.79	288	75.20	56	14.62	29	7.57	6	1.57	4	1.04
All Tests	14131	2.23	3.91	1.2	120	0	1832	12.96		9940	70.34	2359	16.69	1425	10.08	311	2.20	96	0.68

Bedrock Zones in Vermont and Radon-in-Air Tests 2019

Plate 1- Map of Bedrock Zones and Radon-in-Air Test Point Locations and Statistics

Authors:
Jonathan Kim- Vermont Geological Survey
Peter Young and Nicolas Peterson - Vermont Dept. of Health

This bedrock zones map was modified from:
Ratcliffe, NM, Stanley, RS, Gale, MH, Thompson, PJ, and Walsh, GJ, 2011, Bedrock Geologic Map of Vermont: USGS Scientific Investigations Series Map 3184, 3 sheets, scale 1:100,000.

VERMONT AGENCY OF NATURAL RESOURCES Vermont Geological Survey
VERMONT DEPARTMENT OF HEALTH

Published by:

Vermont Geological Survey
Dept. of Environmental Conservation
Marjorie H. Gale, State Geologist
1 National Life Drive, Main 2
Montpelier, VT 05620
802-522-5210
http://dec.vermont.gov/geological-survey