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Online Geiger Counter Nuclear Radiation Detector Map

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Readings are in uR/hr for Cs137/Co60

Only detectors with readings in the last 24 hours are displayed

Note that these are generally run by individuals, and not all readings may be accurate. Do not panic because you see a high reading. Someone could be getting invalid readings.

Treat this for information purposes only, do not make safety decisions based upon it.

Today is: 2011-03-19, and the time is 12:43:05 UTC.

This page will automatically refresh every 15 minutes.

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After visiting this page, please consider visiting my home page, <http://www.blackcatsystems.com> My full time job is writing software, and I have a variety of programs available for the Macintosh, Windows, iPhone, iPad, and iPod Touch. Perhaps you will find something of interest.

Typical background radiation levels for most of the USA are in the 5 to 28 uR/hr range. Readings can be higher for brief periods of time due to normal variations in radiation levels. They can also be consistently higher for areas at high elevations, or with larger natural deposits of uranium, thorium, radon, etc.

The readings on this page were obtained using one of the Black Cat Systems radiation detectors:

- [GM-10](#) Alpha / Beta / Gamma detector
- [GM-45](#) Alpha / Beta / Gamma detector with large pancake tube for higher sensitivity
- [GM-50](#) Gamma detector
- [GM-90](#) Alpha / Beta / Gamma detector with two large pancake tubes for even higher sensitivity

The detector is connected to an ordinary computer (Windows or Macintosh) running a copy of the [Rad](#) software and connected to the internet (dialup, cable modem, dsl, etc). Rad automatically sends the current radiation reading to the web server that hosts this site, which generates the map showing the readings for all radiation monitoring stations. Rad is included free with any of our radiation detectors.

Users of our detectors are welcome to add their site to the map. Contact us at info (at) blackcatsystems (dot) com for details on how.

A geiger counter lets you check the environment and items for radioactivity. You can use to check for the presence of radon on your house or basement, or even use it to go prospecting for uranium or other radioactive minerals. The GM-10 and other members of the geiger counter family can detect radioisotopes such as Polonium 210 which was used to poison Alexander Litvinenko.

A geiger counter works by detecting the ionization produced by a radioactive particle. Each time a particle of radiation is detected, the counter records this event. The number of events recorded over a period of time indicates the amount of radiation present. Often this is done over one minute intervals, resulting in the familiar "counts per minute" or CPM. The higher the CPM, the higher the radiation levels. You can read a more in depth description of [how geiger counters work](#).

Radiation decay is a random event. That means that if the average reading is say 16 CPM, it will not remain a steady 16, but will bounce up and down. This is normal. The standard deviation is the square root of the average value, and the typical maximum range is plus or minus 3 standard deviations.

So, using the above example, the square root of 16 is 4, so the standard deviation is 4. 3 times 4 is 12. So we would expect the readings to be 16 +/- 12, or range from 4 to 28. That is to say, even if the radiation levels are a "constant" 16, the apparent readings of the geiger counter will range between 4 and 28. So if you suddenly see the reading jump from 16 to 25, that does necessarily **not** mean that the radiation level has increased.

There is a writeup about [Counting Statistics](#) available.

Radioactivity is the emission of energy from the nucleus of certain nuclides or elements. Some naturally occurring radioactive elements include uranium and thorium and radon. A small amount of naturally occurring potassium is even radioactive.

There are three types of radioactive emissions:

- Alpha - the least penetrating form of radiation, can be stopped with a piece of paper or a few inches of air. Alpha rays are the nucleus of a helium atom, and are produced by certain radioactive materials such as thorium and uranium.
- Beta rays are more penetrating than alpha rays, and can be stopped by a few millimeters of aluminum or other metals. They are very fast moving electrons.
- Gamma rays are the most penetrating form of radiation. Depending on their energy, they can travel through up to several inches of steel, and hundreds of feet of air. They are usually produced in conjunction with either alpha or beta rays.

You may be interested in [Information on Radiation Units and Background Radiation Levels](#)

We also have an interesting page about [Radioactive Products and Other Sources Of Radiation](#)