Laboratory of environmental radioactivity

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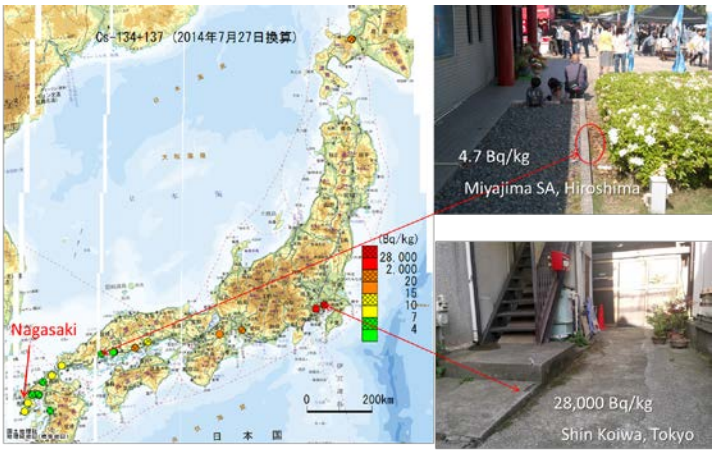
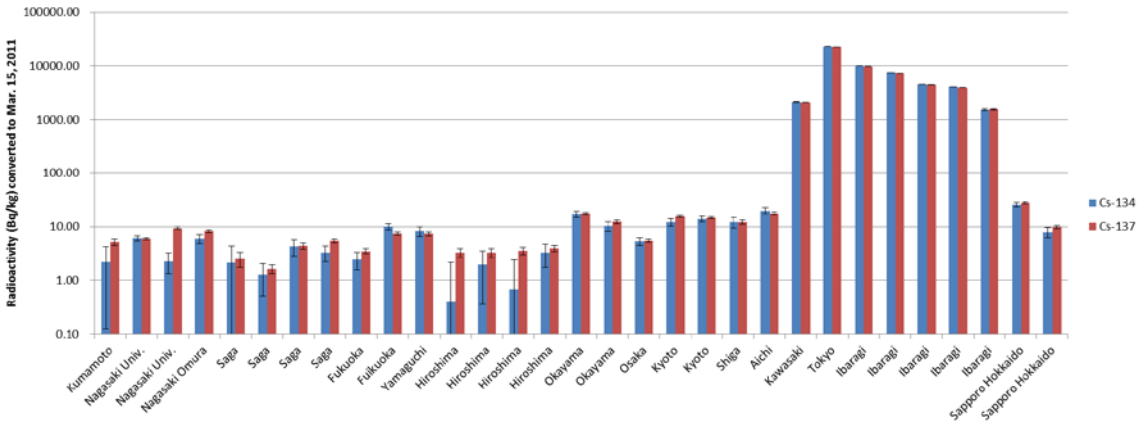
Biological damage caused by ionizing radiation is assumed directly proportional to the effective dose (Sv) at low dose and low dose rate. The worldwide annual average natural dose to humans is about 2.4 mSv. The human fatal risk of the radiation is estimated about twenty-thousandth per mSv by ICRP and is about the same level of annual risk of traffic death. The risk of the radiation is not small and hard to notice. We currently focus on the effects of Fukushima Daiichi Nuclear Power Plant accident. Residents near the power plant are still now exposed to radiation dose significantly larger than the natural level.

Germanium semiconductor gamma-ray detector equipped with a sample changer.



^{134}Cs and ^{137}Cs were detected in samples of moss (bryophyte or lichens) in various regions in Japan. Trace amounts of ^{134}Cs and ^{137}Cs were also detected in foods sold on markets in Nagasaki.



Radioactivity concentration of ^{134}Cs and ^{137}Cs in the moss samples converted to the values of Mar. 15, 2011 (date of the accident). ^{134}Cs and ^{137}Cs concentration of mostly samples is almost same. It is the specific property of the radioactive materials released accompanied with Fukushima Daiichi Nuclear Power Plant accident.