

## Transfer of fallout radiocesium in various terrestrial environment in Yamakiya district, Kawamata Town

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Radioactive contamination has been detected in Fukushima due to the nuclear accident at Fukushima Daiichi Nuclear Power Plant (NPP) following the earthquake and tsunami on 11 March 2011.

Following comprehensive investigation (FMWSE project; <http://fmwse.suiri.tsukuba.ac.jp/>) was conducted to confirm migration of radionuclides through natural environment including soils and rivers funded by MEXT, Japan. Experimental catchments have been established in Yamakiya district, Kawamata Town, Fukushima prefecture, located about 35 km from Fukushima power plant, and designated as the evacuated zone. Approximate Cs-137 fallout in this area is 200-1000k Bq/m<sup>2</sup>.

The main finding is as follows:

- 1) Migration of radionuclides to soil water, stream water and ground water was confirmed low at present. On the other hand, concentration of radiocaesium was found approximately 50 kBq/kg in the suspended sediments flowing down the river.
- 2) Amount of sediments deposited in the tank placed at the end of downstream within the USLE plot was confirmed together with the concentrations of radiocaesium.
- 3) In forests, distribution of radiocaesium was able to be confirmed to a certain extent by placing towers in the Japanese cedar forest and broad-leaved forest. To date, since a large amount of radiocaesium is considered to be found in coniferous tree canopies, these data are expected to be applied to future decontamination. Moreover, further investigation is necessary on the chemical state of radiocaesium which falls down to the forest floor as throughfall and on the actual condition of downward migration from forest floor to deeper soil layers.

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