

## Investigation of soil radionuclide near the Fukushima Dai-ichi Nuclear Power Plant 5-year after the accident by JpGU-JNRS team

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[Introduction] A large-scale soil sampling project for radionuclides from the Fukushima Dai-ichi Nuclear Power Plant accident was conducted in June 2011 by a research group including the Japan Geoscience Union (JpGU) and the Japan Society of Nuclear and Radiochemical Sciences (JNRS). New research project following the 2011 project was also implemented by JpGU-JNRS team with the objective to know the transition process of radioactive cesium in soil and the current contamination in 2016 when five years passed since the accident.

In this report, the outline of the project will be presented. We will also present some preliminary results of the inventory of <sup>134</sup>Cs and <sup>137</sup>Cs in the soil, comparing 2011 and 2016. More detailed results will be presented in another report.

[Sampling and Measurement] Between June and September 2016, 176 researcher of total had worked to measure the air dose rate and collect soil samples at 105 locations near the Fukushima Dai-ichi nuclear power plant, mainly on the difficult-to-return zone, for 9 days in total. Surface soil was sampled at 5 points per one location as well as air dose rate at 5 cm and 1 m from the ground surface. The sample from depths of 5 cm was divided into two parts of 0 - 2.5 cm depth and 2.5 - 5 cm depth, filled in a U-8 container after drying. Radiocesium was quantified using gamma ray spectrometry with Ge detectors. To understand the transition of radiocesium in soil, 30-cm depth soil core samples were obtained at about 1/4 of all locations.

Keywords: Fukushima Dai-ichi Nuclear Power Plant, Radiocesium, soil deposition density