

Eight-year monitoring study of radiocesium transfer in forest environments after the FDNPP accident

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This study investigated temporal changes in ¹³⁷Cs concentrations in environmental samples collected from various forests over 8 years following the accident, in Yamakiya district of Kawamata town. Cesium-137 was detected in all forest environmental samples; however, the concentration in most samples decreased exponentially with time. The decreasing trend of ¹³⁷Cs concentrations varied between needles/leaves and the outer bark of Japanese cedar and konara oak trees, suggesting that self-decontamination processes and internal recycling of ¹³⁷Cs varied among tree species and different tree parts. We selected a cedar stand in the highly contaminated area of Namie Town, the mechanisms of radiocesium leaching from forest canopy to rainwater and those influences to temporal trend of self-decontamination processes were examined by measuring particulate and dissolved radiocesium concentrations in throughfall.

Keywords: Fukushima Dai-ichi Nuclear Power Plant accident, Forest, Radiocesium