

## Radiocesium dynamics in Fukushima and Chernobyl forests

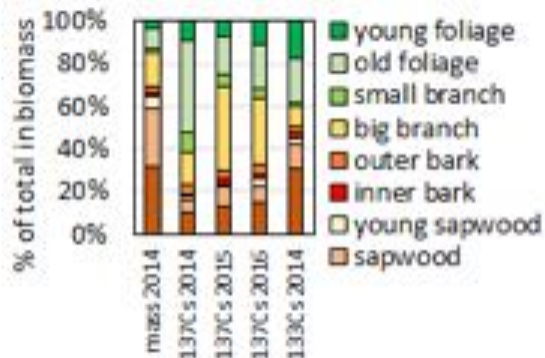
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In the early stage after deposition, the dominant process both in Chernobyl and Fukushima forests was removal of the intercepted radionuclides from the aboveground biomass with litterfall and precipitation [1]. Later, due to redistribution in soil profile, radionuclides become available for root uptake into plants. In particular, in the late stage, radiocesium in the forest ecosystem is recycled by the same processes that recycle major nutrition element, potassium, and natural stable cesium isotope, <sup>133</sup>Cs: it comes from soil through roots into aboveground biomass, translocates between its compartments, and returns to soil with litterfall and throughfall while some part of the uptaken amount remains immobilized in biomass. With time, deposited <sup>137</sup>Cs gradually approaches to equilibrium with <sup>133</sup>Cs (Fig. 1).



**Figure 1:** Distributions of Fukushima-derived <sup>137</sup>Cs and natural <sup>133</sup>Cs in typical Japanese cedar forest [2].

In this paper, we compare distributions of <sup>137</sup>Cs in the typical forest ecosystems in Chernobyl and Fukushima, and identify the main processes governing its long-term dynamics.

[1] Yoschenko *et al.* (2018) *J Forest Research* **23**, 3-14. [2] Yoschenko *et al.* (2018) *J Environ. Radioact.* **186**, 34-44.