1. Record Nr. UNINA9910350355103321

Titolo	Radiocesium Dynamics in a Japanese Forest Ecosystem : Initial Stage of Contamination After the Incident at Fukushima Daiichi Nuclear Power Plant / / edited by Chisato Takenaka, Naoki Hijii, Nobuhiro Kaneko, Tatsuhiro Ohkubo
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-8606-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (234 pages)
Disciplina	541.3884
Soggetti	Forestry Environmental monitoring Radiation protection Radiation—Safety measures Ecology Plant science Botany Monitoring/Environmental Analysis Effects of Radiation/Radiation Protection Ecology Plant Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I: Radiocesium deposition at the accident -- Chapter 1: Radioactive contamination in forest by the accident of Fukushima Daiichi Nuclear Power Plant - Comparison with Chernobyl- -- Chapter 2: Radiocesium deposition at the accident and the succeeding movement through hydrological process in forest ecosystem in Fukushima -- Part II: Mechanisms of radiocesium translocation in plants -- Chapter 3: Uptake of radiocesium by plants -- Chapter 4: Surface absorption of 137Cs through tree bark -- Chapter 5: Translocation of 137Cs in the woody parts of Sugi (Cryptomeria japonica) -- Chapter 6: Radiocesium translocations in bamboos -- Chapter 7: Movement of cesium in model

plants -- Part III: Radiocesium movement through ecological processes in forest ecosystem -- Chapter 8: Movement of radiocesium as litterfall in deciduous forests -- Chapter 9: Changes in chemical forms of radiocesium in the forest floor organic matter with decomposition, and uptake of radiocesium derived from the organic matter by crops -- Chapter 10: Contamination and transfer of radio-Cs in soil ecosystem -- Chapter 11: Spiders as an indicator of 137Cs dynamics in the food chains in forests -- Chapter 12: Radioactive cesium contamination of sika deer in Oku-Nikko region of Tochigi Prefecture in Central Japan -- Part IV: Radiocesium dynamics and its perspective in forests -- Chapter 13: Modeling radiocesium dynamics in a contaminated forest in Japan -- Chapter 14: Future perspective.

Sommario/riassunto

This book investigates radiocesium movement in all major components of forest ecosystems, e.g. the plants, animals, insects, microorganisms, and soils, during the initial stage of contamination after the incident at Fukushima Daiichi Nuclear Power Plant. Most of the work was conducted at a common research site. More specifically, the book examines the contribution of surface uptake by trees in the dynamics of radiocesium during the initial contamination stage; the movement of radiocesium in the form of small organic fragments that are essential to the radiocesium dynamics in forest ecosystems; and the upward movement of radiocesium due to microorganism activity, which promotes the effective decontamination of the forest floor. Lastly, it explains why spiders could be a valuable indicator of the contamination level in forest ecosystems.