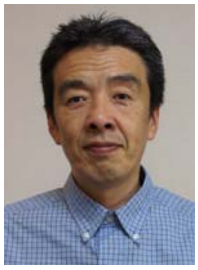

Title of Project : Interdisciplinary Study on Environmental Transfer of Radionuclides from the Fukushima Daiichi NPP Accident

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【Purpose of the Research Project】

Massive earthquake attacked the eastern Japan on March 11 2011. It triggered violent tsunami that damaged the Fukushima Nuclear Power Plant. A large amount of gamma-emitting radionuclides were released into its surrounding area and also circulated globally with atmospheric diffusion process. After more than a year since the accident, an interdisciplinary study on falloutradionuclides for long–term estimation will become more important than the investigation for basic countermeasures such as short-term estimation and decontamination.

With the variety of circulation and interaction processes, transfer of fallout radionuclides will become a serious issue in the future. The forms of transfer include entrainment from the ground surface, sediment transfer with associated radionuclides to rivers and reservoirs, and radionuclide migration to forests, crops, marine and terrestrial ecosystems.

Radioactive contamination is a complex and unprecedented problem that will not be resolved by a single tackle in each field. Based on the many fields of geoenvironmental sciences, establishment of a new and cross-sectional study area with radiochemical and nuclear gauging technology is required.

Researchers join this project with their wisdom in the long-term radionuclide migration in the environment and the estimation of environmental dynamics. Through these studies we will try to establish the formation of the world's leading new research area.

【Content of the Research Project】

We broadly have four parts in this research area (A01-A04) and will deepen each study and offer feedback to each other through collaboration.

Group A01 will focus on the impact of radionuclides on the atmosphere to elucidate the atmospheric circulation modeling of the fallout radionuclides, migration process, atmospheric deposition, diffusion process and the interaction of land surface.

Group A02 will focus on the effect of radionuclides on the ocean. They will study the distribution factor and condition of radioactive materials in sea and seafloor and also understand the migration and concentration of radionuclides in marine ecology.

Group A03 will be focusing on the effect of radionuclides on the land. They will find out the migration process of radionuclides associated with water and sediment and also the radioactive migration in terrestrial plants and ecosystem.

Group A04 will focus on the chemical forms of migrated radionuclides and the development of the measurement technology for various chemical forms.

【Expected Research Achievements and Scientific Significance】

We will launch a cross-sectional team, which consists of related but different study fields with geoenvironmental researchers as a core, to understand current contamination status and to construct a model for transfer and diffusion processes of radionuclides. Scientific insights and foundation for modeling which require long-term measures will be established through various interdisciplinary studies. With this interdisciplinary study on environmental transfer of radionuclides from the Fukushima Daiichi NPP Accident, we aim at strengthening academic levels of geoenvironmental sciences of our country, which in turn will contribute to the society.

【Key Words】
Fukushima Daiichi NPP Accident, Cs-137, Land, Ocean, Life, Atmospheric circulation, Entrainment

【Term of Project】 FY2012-2016

【Budget Allocation】 923,800 Thousand Yen

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