

## Observation of atmospheric radioactivity in Tsukuba-Impacts on aerosol and deposition by the Fukushima nuclear accident

IGARASHI, Yasuhito<sup>1\*</sup>

<sup>1</sup>Atmospheric Environment & Applied Meteorology Resarch Department, Meteorological Research Institute

At the Meteorological Research Institute, Japan (MRI), in order to clarify the actual condition and its control factors for temporal concentration change of anthropogenic radionuclides in the atmosphere as well as in the ocean, observations have been continued for the long-lived radionuclides, which could have environmental and health impacts, over the long period of 50 years or more from the 1950s, triggered by the Bikini incident. Especially, long-term observation record of monthly depositions of anthropogenic radionuclides (<sup>90</sup>Sr and <sup>137</sup>Cs) becomes the world-longest, and will cover full 55 years in March, 2012 since April, 1957.

The large-scale nuclear test in the atmosphere conducted by the U.S. and the former Soviet Union during the late 1950s to the early 1960s, nuclear tests by China during the early 1970s to the early 1980s and the Chernobyl accident in 1986 have been recorded clearly with which level the anthropogenic radionuclides emitted being affected onto the atmospheric environment over our country.

The accident of Fukushima Daiichi Nuclear Power Plant of the Tokyo Electric Power Corporation, which occurred by the hit of great earthquake in March 11, 2011, newly emitted and added abundant radioactive material, which is a few tenth of those from the Chernobyl accident, to the atmospheric environment. By this large-scale contamination, atmospheric environments over Japan, especially the eastern Japan, had a substantial influence with a massive amount of the anthropogenic radionuclides. At the MRI, atmospheric sampling and analysis of the radioactivity in the sample were continued before and after the accident. In this lecture, the impacts by the Fukushima accident is addressed about which were documented in our long-term time series data of the atmospheric radioactivity.

Keywords: Anthropogenic radioactivity, Atmospheric samples, the Fukushima accident, Atmospheric deposition