

Environmental pollution by the Fukushima Daiichi nuclear power plant accident and role of the atmospheric science

NAKAJIMA, Teruyuki^{1*}

¹Atmosphere and Ocean Research Institute

There are several past and future issues to be discussed regarding the role of the atmospheric science in the accident of the Fukushima Daiichi nuclear power plant. SPEEDI model results were not effectively used in the evacuation plan by the government. It was found, on the other hand, that the performance of atmospheric chemistry transport models are comparable to or better than that of SPEEDI, for simulation of distribution of radioactive material over the wide area contaminated by the accident. In that situation, a bottom-up process were useful to gather results of simulation and in situ measurements by volunteer scientists to be utilized in the decision process of the government. The Science Council of Japan is now under discussion of establishing an emergency action manual for gathering data and knowledge by scientists to be shared by professionals to make useful outputs to government and public. As also indicated by the IPCC assessment process for climate change, it is important to present uncertainties included in the scientific knowledge to be released. In this regard, it is important for the atmospheric science to contribute to reducing the uncertainties through a further progress of the atmospheric dynamics, physics, and chemistry modeling system and through establishing more robust monitoring system of weather and other quantities. I like to discuss these issues for improving our ability to reduce damage caused by future disasters that may happen.