

# Experimental Development of Ocean Prediction System for Accidental Radionuclide Dispersion

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Discharge of radionuclides into the ocean from Fukushima Daiichi nuclear power plant, associated with the Tohoku Earthquake on March 11, 2011, exposed significant lack of our capability of providing predicted radionuclide dispersion in a near real-time basis. This is due partly to scientific issues on ocean forecasting in the coastal area and partly to issues in developing a prediction system in emergency. It is necessary to respond to strong requirements from society about appropriate information for the case not only for the radionuclides off the Tohoku area but also for other places and other pollutants. This paper introduces our research activities on experimental development of such a prediction system, based on several modeling activities focusing on Japanese coastal regions. Appropriate model settings and forcing should differ according to dominant processes responsible for ocean variability in target areas. We choose a several locations within the coastal region in Japan to make prototype systems of the oceanic dispersion, which can be used as a tool for real-time forecast of material distribution after accidental discharge. Key points that should be considered for appropriate prediction will be discussed.

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