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Abstract

Environmental transfer model for radionuclides in Lake Obuchi, a brackish lake neighboring the nuclear spent-fuel reprocessing plant, Rokkasho-Village, Japan, has been also developed until 2005. The Lake Obuchi model consists of a water current model and an ecosystem model including lower trophic level organisms. Although the model successfully described background ^3H concentration in lake water, the depth profile of ^{137}Cs in sediment was not well simulated. To improve the simulation, the model should include the watershed of Lake Obuchi as a source supplying ^{137}Cs and other radionuclides. Therefore, a watershed model of Lake Obuchi and an ecosystem model including also higher trophic level organisms are planned to be developed for describing the behavior of radionuclides in aquatic system in Rokkasho. In fiscal year 2006, we selected the SWAT (Soil and Water Assessment Tool) model, which was originally developed by USDA Agricultural Research Service, as the best one for our purpose among various watershed models.