



Numerical Demonstration of Massive Sediment Transport and Cs Recontamination by River Flooding in Fukushima Coastal Area

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Radioactive Cs recontamination brought about by deposition of silt and clay on river beds has been a central issue of environmental recovery problems in Fukushima prefecture after the Fukushima Dai-ichi nuclear power plant (FDNPP) accident. In fact, the river-side sediment monitored by using remote controlled helicopters and direct sampling measurements has been confirmed to be highly contaminated compared to the other areas, which just naturally decay. Such contamination transportation is especially remarkable in a few rivers in coastal areas of Fukushima prefecture, because their water and sediment are supplied from the highly contaminated area along the northwest direction from FDNPPs. Thus, we numerically study the sediment transportation in rivers by using 2D river simulation framework named iRIC developed by Shimizu et al. Consequently, we find that flood brought about by typhoon is mainly required for the massive transport and the sediment deposition in the flood plain is efficiently promoted by plants naturally grown on the plain. In this presentation, we reveal when and where the sediment deposition occurs in the event of floods through direct numerical simulations. We believe that the results are suggestive for the next planning issue related with decontamination in highly-contaminated evacuated districts.