

Numerical Analysis for Bed Changes Considering Discharge Variation at the River Confluence Section

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Abstract. Geomorphological changes due to local erosion and sedimentation occur in river confluences merged main channels and tributaries. During the four major rivers restoration project in South Korea, there has been massive dredging in the main channel, therefore significant changes in confluence sections have been expected after the project due to the difference between water levels in the main channel and tributary. In this study, bed erosion and sedimentation are analyzed using a two dimensional numerical model for the confluence section of South Han River and Geumdang Stream. This section is located between Yeosu and Gangcheon weirs which were constructed for the four major rivers restoration project. Because the difference of water levels at the main channel and tributary is varied according to flow discharge distribution, geomorphological change is also different. Quantitative comparison of bed change in the confluence section considering discharge variation is conducted based on the results of two dimensional numerical simulations.

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