

Part 4: Research on the Modeling Approach of Geomorphic Changes: A examination case in a Sedimentary Rock Area

Ikuo Hanatani[1]; Masahiro Munakata[1]; Hideo Kimura[1]

[1] JAEA

<http://www.jaea.go.jp>

In order to evaluate the influence on a long-term groundwater flow system by geomorphic change, we carried out the numerical simulation of the changes in the longitudinal profile of river-bed for four rivers in a sedimentary rock area, and plotted the distribution map of the amount of gully erosion for 125,000 years. According to the results, the erosion estimates of the two rivers emptying into the inner bay were different from the two rivers emptying into broad ocean. The estimates of the former group were 50-300 m that varied widely from downstream site to upstream site. On the other hand, they were 150-250 m ranging over the whole watershed in the latter group. Furthermore, the movement rates to the upstream of the erosional fronts formed with sea level decrease were estimated 0.7-1.0 meter per year.