

Controlling factors of size distribution of riverbed clasts; in case of Omoi River

Ken-ichiro Hisada[1]; Kumiko Sakairi[2]

[1] Grad. School Life and Envir., Univ. Tsukuba; [2] Master's program Ed., Univ. Tsukuba

There are two controlling factors of size distribution of riverbed clasts; breakdown/abrasion and selective transportation. The former has been generally accepted in Japan as a main function explaining the size distribution along the rivers. The running water entrainment of clasts (= sediments) is usually dependent on their sizes. If the selective transportation can be a main function, it seems that the lithological composition ratio in each size class, which was measured at several studied points along the river, is nearly same. In this study, the Omoi River in Tochigi Prefecture was selected because the clasts from branch rivers are rarely added in the studied interval of the river. The riverbed clast size study was carried out at four sites along the Omoi River, As a result, chert clast of -5.0 to -4.0 phi class changes in 1.9 % - 3.0 % - 3.9 % - 6.1 % of weight ratio. This relatively slow increase suggests that the clast size decrease is caused by selective transportation rather than breakdown/abrasion.