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学位 (専攻分野)	博 士 (理 学)
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学位記授与の要件	学位規則第 4 条第 2 項該当
学位論文題目	Development of hydrological equations from modern rivers on convergent margins and applications to fluvial successions in rock records (変動帯に発達する河川システムの水文学的特性値の定量化と地質記録への適用)
論文審査委員	(主 査) 教 授 : 小竹 信宏 (副 査) 教 授 : 宮内 崇裕 教 授 : 竹内 望 教 授 : 伊藤 慎

論 文 内 容 の 要 旨

The present study developed empirical relationships between the channel cross-sectional dimensions, discharges, and drainage basin characteristics using datasets mainly from modern rivers in the Japanese Archipelago with supplementary datasets from the rivers in the Indonesian Archipelago. The relationship between the bankfull channel width and the bankfull discharge of Japanese rivers is similar to that described from fluvial systems in the other countries. In contrast, some of the relationships are different from those proposed from rivers in other regions. The discrepancies are considered to reflect variations in tectonic and climatic settings of each fluvial system. The empirical equations were applied to bar deposit thicknesses of fluvial successions. The major outcomes are as follows. No distinct temporal changes in bankfull channel dimensions in transgressive fluvial deposits of the Paleogene Iwaki Formation, Northeast Japan, imply that a rise in relative sea level did not affect the channel dimensions. Drainage basin lengths of fluvial systems of the Iwaki Formation and the Paleogene Bayah Formation, West Java, restricted their source areas of detrital fragments in more detail than those that have been previously inferred. The upward decreases in bankfull channel dimensions and the connectivity of channel complexes of the Upper Triassic Chinle Formation, Southwest Utah are interpreted to have been caused by climatic drying, and the stacking pattern is similar to the nonmarine sequence stratigraphic models. These approaches make it possible to understand allogenic controls on fluvial architecture in more detail and to constrain the paleogeography and sediment provenance.