

Landform Analyses of Granite Mountains in Northeast Japan: Reconsideration of Uplifted Peneplain in Abukuma Mountains.

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Uplifted peneplain is a geomorphic stage of the classical model of “cycle of erosion” produced by W. M. Davis, whereas geomorphology should reconsider this model based on quantitative landform analyses. This study discusses low-relief landforms considered as uplifted peneplains in Abukuma mountains, northeast Japan. GIS analyses were undertaken using DEM10A data by GSI (Geospatial Information Authority of Japan) in the Nitta, Takase and Natsui river basins located in the Abukuma mountains. Longitudinal profiles indicate many knick-zones along the three rivers at the edges of the low-relief surfaces defined as boundaries between gentle and steep slope areas. These knick-zones range from 260 m to 420 m in elevation and are situated at variously geological settings. GIS analyses show the various elevation of ridge lines even in each basin, which suggests different geomorphological formation to the cycle of erosion.

Keywords: uplifted peneplain, cycle of erosion, granite, Abukuma mountains