

Development of bedrock rivers dissecting the Middle to Late Pleistocene marine terraces at North Sanriku Coast, NE Japan

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Development of longitudinal river profiles are investigated based on geomorphological features of marine terraces and analysis of digital elevation models at northern Sanriku coast, Northeast Japan. The rivers are cross cutting the Middle to Late Pleistocene marine terraces at right angle and some of them have sharp and distinctive river knick point which should be generated at cliffs of the terraces. In the study area, convex longitudinal river profile is common at lower reach of the rivers. Sharpness of knickpoint varies amongst the rivers, and causes of such difference in the longitudinal profile are expected as following. One possibility is difference of erosional intensity, which should have worn out sharp knickpoints to blunt ones. Another possibility is that marine terrace landform controls evolution of river profiles. In the study area, differences of erosional intensity are regarded as negligible or adverse agent. Effect of marine terrace forms on development of longitudinal river profile is discussed.

Keywords: the Middle Pleistocene, digital elevation model, marine terrace, longitudinal river profile, knickpoint