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THE LATE QUATERNARY GEOMORPHOLOGY OF THE
LOWER MANAWATU

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of the requirements for the Degree of
Master of Arts in Geography at
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by

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ABSTRACT

The geomorphology of the present Lower Manawatu floodplain and the valleys that exit at the margin of the floodplain, is presented. An introduction to the geology and geomorphology of the study area is given, and previous studies are reported where relevant.

Two types of tributary valleys have been recognised in the study area. These valleys have been cut into the Tokomaru Marine Terrace. The first type recognised are predominantly gravel-floored, box-shaped valleys with headwaters in the Tararua Ranges. The second and major type recognised are box-shaped valleys without gravel floors. The first type have been formed by normal fluvial processes, while the second type were originally V-shaped, and have been infilled by estuarine sedimentation processes. The latter occurred as a direct result of the Flandrian Transgression.

The morphology of the Tokomaru Marine Terrace margin is examined, and it is concluded that the margin is predominantly river-cut. The Manawatu floodplain was originally an estuary. As the Flandrian Transgression began the lower reaches of the Manawatu and eventually the Oroua Rivers were drowned. As the Transgression progressed, the Lower Manawatu became an estuary. It appears that the Himatangi Anticline and Poroutawhao High acted as effective barriers to direct marine incursion in the study area.

The degree of warping and compaction of Aranuiian sediments could not be ascertained. The degree of regional uplift has probably been greater than any localised anticlinal uplift which has been negligible in the last 6000 years.

An examination of fossiliferous estuarine beds near Shannon illustrates that typical estuarine processes were prevalent. A higher Post-glacial sea level than present is disputed for the study area. Finally, a brief geomorphological history of the study area is presented.

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