



**THE GEOMORPHOLOGY OF THE MURRAY VALLEY
IN SOUTH AUSTRALIA**

by

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STATEMENT OF ORIGINALITY

This thesis is based on original research carried out in the Department of Geography, University of Adelaide. It contains no material previously submitted for a degree at any University and to the best of my knowledge contains no material previously published or written by another author, except where due reference is made in the text of the thesis.

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SUMMARY

Geomorphological mapping of the valley of the Murray River in South Australia and the interpretation of the geomorphic units selected for this mapping has yielded an explanation for the present-day landscape in this region.

Intrenchment has produced a variety of valley-side slopes, related directly or indirectly to fluvial processes acting upon the combined effects of Pleistocene to Tertiary stratigraphy and jointing. Processes of subaerial weathering, erosion, and deposition subsequently modified the primary slopes.

The morphology of the entrenched valley is locally variable due to structural differences rather than to changes in discharge through the evolution of the river.

Discontinuous depositional units, resulting from fluctuations in baselevel of the river, are contained within the valley.

There are two types of river channel pattern: a meandering pattern occurs upstream from Overland Corner, whereas the river has an "angular meandering" form downstream from this locality. This difference in pattern suggests that the Murray River in its lower reaches is still in a period of adjustment to the lateral structure, as it flows across a deep floodplain.

The geomorphic units of the Murray valley in South Australia are chiefly the product of intrenchment, and minor baselevel changes. However, some of the present-day landforms are being modified by, or may be the result of, (1) chemical weathering, (2) mass movements, (3) normal fluvial processes, (4) aeolian processes, and (5) anthropogenically induced processes.