SUMMARY

The Avoca River catchment has a Mediterranean climate, ranging from humid at the higher elevations in the south to semi-arid on the flat plains in the north.

Nine broad geomorphic zones have been recognised within the area. The Pyrenee Range consists of mountains in a catchment of otherwise low relief. Steep hills occur on granite and on Ordovician sediments with their associated metamorphic aureoles. Gentle hills occupy large areas of Ordovician sediments and granite. However, the largest area comprises plains made up of Tertiary fluviatile gravels and alluvial aprons, Quaternary alluvia, calcareous aeolian deposits and a small area of basalt.

Sodic duplex soils predominate, reflecting the prevalent dry climate. Profiles are calcareous in the north and stony on the steeper slopes. Highly weathered acidic duplex soils occupy old surfaces on Tertiary deposits and on granitic rocks. Uniform-textured profiles are also found, particularly clays on basalt and on lacustrine deposits.

Most of the native vegetation has been removed, notable exceptions being on steep hills and on gravelly plains of low fertility. Open forests of mixed eucalypts originally dominated, prominent species being *Eucalyptus microcarpa, E. leucoxylon, E macrorhyncha* and *E camaldulensis.*

Agriculture is the main land use, with emphasis on wheat and sheep in the north and on oats, sheep and cattle in the south.

Twenty-eight land systems have been recognised, according to the nature and distribution of soils and vegetation within the broad geomorphic units. Most land systems have serious hazards of soil deterioration, and land use has frequently led to many forms of deterioration, including erosion by water and wind, salting, nutrient decline and surface compaction. These in turn affect the quality and regulation of streams and groundwaters.

Achievement of soil conservation requires appropriate management techniques for the various uses. Further research is required in order to evaluate and control the many forms of deterioration.