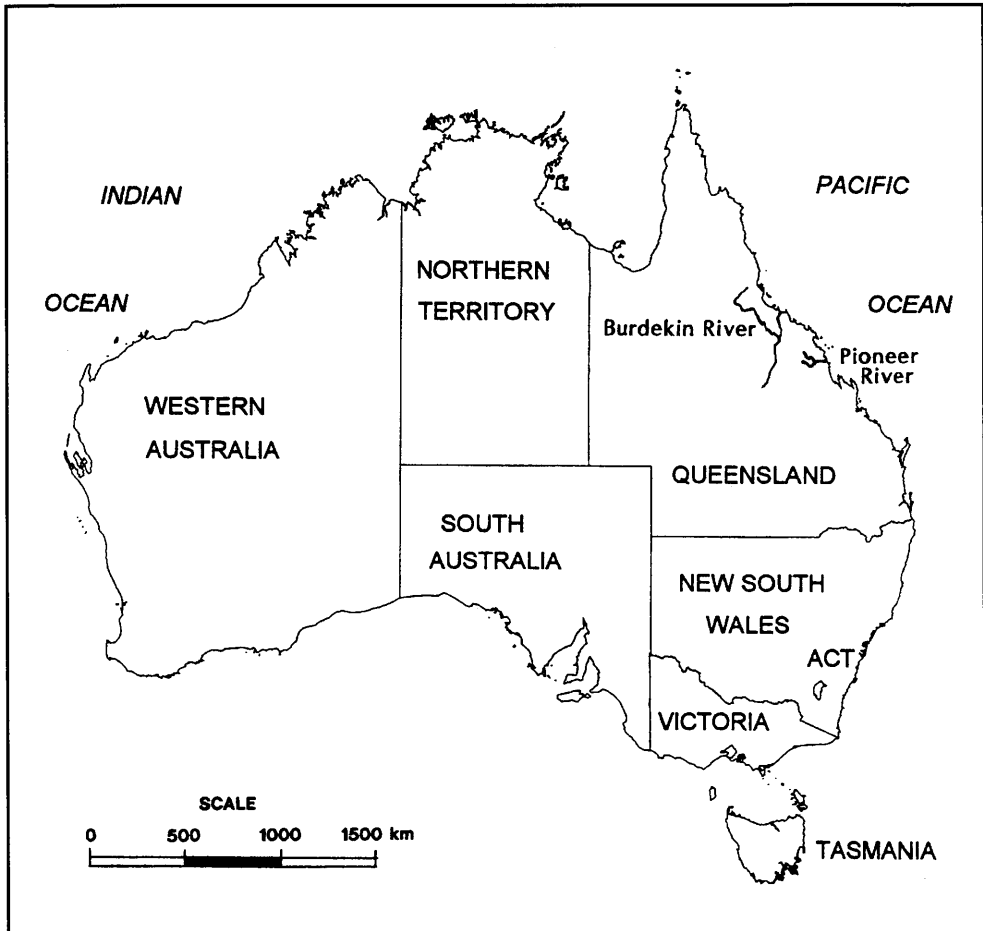


Australia

Australia-1: Burdekin River

Australia-2: Pioneer River



Introduction

The continent of Australia is the lowest, the flattest and, with the exception of Antarctica, the driest of the continents with a total land area of 7 682 000 km². The land lies between latitudes 10° 41'S (Cape York) and 43° 39'S (South East Cape, Tasmania) and between longitudes 113° 09'E (Steep Point) and 153° 39'E (Cape Byron). The latitudinal distance between Cape York and South East Cape, Tasmania is 3 680 km. The longitudinal distance between Steep Point and Cape Byron is about 4 000 km. There are two major classes of rivers in Australia, those of the coastal margins with moderate gradients and those of the central plains with very slight gradients. The continent has a wide range of climatic zones, from the tropical regions of the north, through the arid expanses of the interior, to the temperate regions of the south. Seasonal fluctuations can be great, with the temperatures ranging from above 50°C to well below zero. The continent often experiences natural disasters, particularly droughts, floods, tropical cyclones, severe storms and bushfires. While the mean annual precipitation is 460 mm in Australia, it varies from 100 mm in the arid central plains to over 4 000 mm in the region with the highest mean annual rainfall on the north-east coast of Queensland near the township of Tully. The overall population of Australia in 1993 was 17.7 million. The overall population density was 2 persons/km² with most of the population concentrated in coastal regions.

The two rivers catalogued in this volume are the Burdekin and the Pioneer, both of which are located in Queensland. The Burdekin River is the longest river in Queensland and flows along the north-east coast. It flows through dry parts of the tropics and can experience hydrological extremes. Large floods are generally associated with tropical cyclones and occur mainly during December to April. Very low flows are evident after extended dry periods. Grazing and agriculture are predominant throughout this catchment. The Pioneer River is located in the warm, wet and humid tropics of Queensland's east coast. Rainfall patterns in the Pioneer catchment are highly seasonal, with extremes of droughts and floods. More than half of the annual discharge from the Pioneer River occurs in the first three months of the year. Most of the economic activity in this catchment is sugar cane production, although tourism also generates substantial income for the region.

Acknowledgements

The following organisations are thanked for their assistance and advice for the preparation of this work:

ACT Electricity and Water (recently renamed ACTEW Corporation),
Australian Bureau of Statistics,
Bureau of Meteorology (Canberra, Brisbane and Melbourne offices), and
Queensland Department of Primary Industries (Brisbane, Mackay and Ayr offices).

In addition, Mr. Mick Fleming, formerly of the Division of Water Resources, CSIRO is thanked for providing useful reference material and helpful comments.

General Reference Maps of Australia are reproduced with the permission of General Manager, Australian Surveying and Land Information Group (AUSLIG), Department of Administrative Services, Canberra.