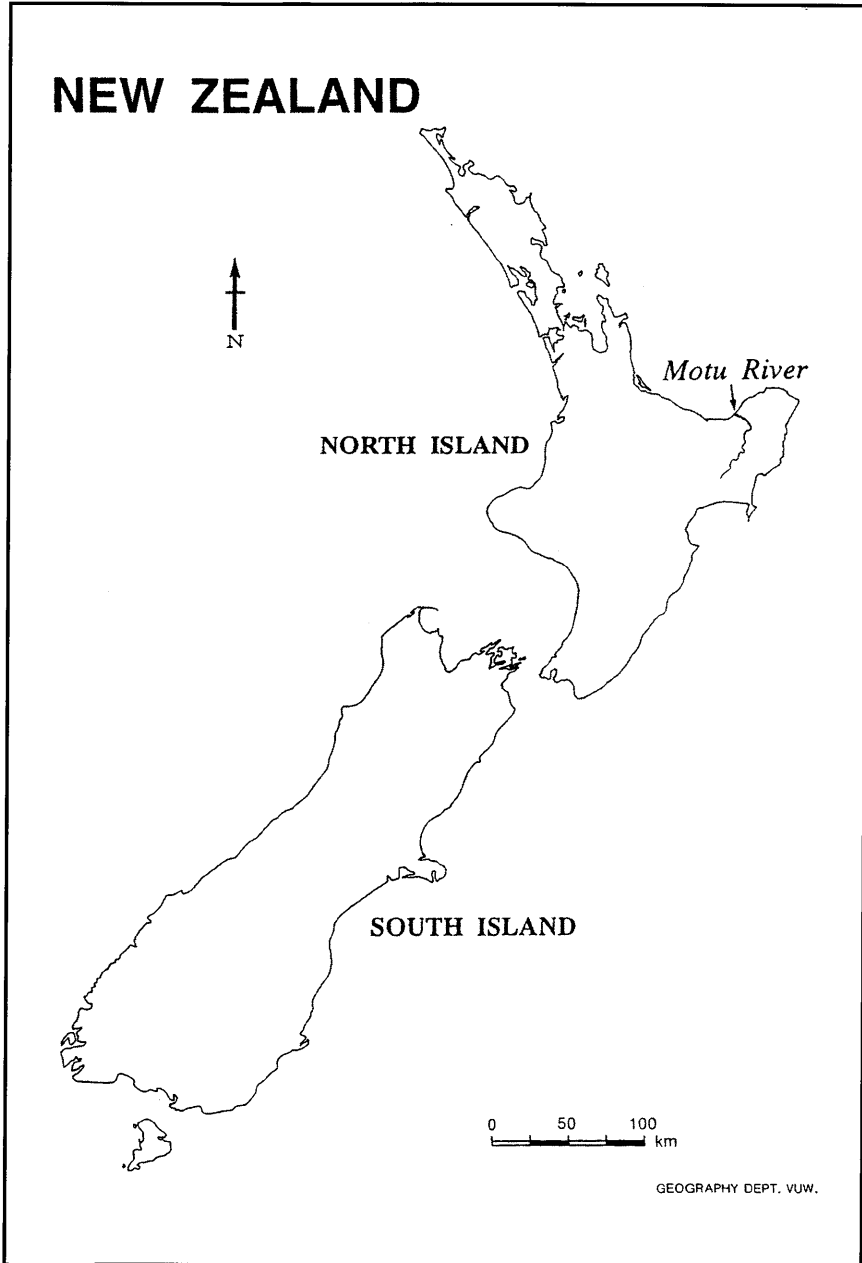


New Zealand

New Zealand-2: Motu River

New Zealand-3: Hutt River



Introduction

New Zealand lies in the Southwest Pacific Ocean, and consists of two main and a number of smaller islands, with a combined area of 271,000 km². The islands extend over 1,500 km between the latitudinal range of 33° to 53°S, with a width of around 250 km. The highest mountains exceed 3,700 m in elevation, with short, steep rivers and high sediment loads. The climate is temperate, with a winter precipitation maximum in the north, and a summer-autumn maximum in the far south. The heaviest precipitation is estimated to exceed 15,000 mm in the Southern Alps, which are transverse to the rain-bearing westerly winds. The population of New Zealand is about 3.5 million, of whom over 80% reside in urban areas - nearly 1 million in the Auckland region alone. On the other hand, 51% of the land area is pasture and arable land, and 28% is forest.

The New Zealand rivers catalogued in this volume are the Motu River and the Hutt River, both from the North Island. The Motu River is located in the northeastern part of the North Island, and represents the lightly populated, predominantly forested landscape 1,000 years ago. With an estimated water balance of 2,100 mm for the whole catchment (equivalent to a mean annual discharge of 93 m³/s at the mouth), there has been considerable interest in developing the river for hydroelectric power. However, a National Water Conservation Order has been made which prevents any such development. The Motu became New Zealand's first "wild and scenic river", as a result, and its water resource remains entirely undeveloped, except for recreational purposes.

The Hutt River is located in the southern part of the North Island. The lower portion of the catchment includes relatively populated urbanized, agricultural, and scrubland landscapes which reflect significant modification by human activity over the past 150 years, since European settlement. The upper catchment is predominantly rugged mountainous and hill country with large areas of indigenous forest. Some areas of exotic forestry and scrubland are also present. The catchment drains to the southwest and receives a moderate amount of precipitation. Annual precipitation ranges from less than 1,200 mm/year on the flood plain to over 5,000 mm/year in the ranges. The lower river is very flood prone, with the primary consequences of flooding being on residential, commercial, and industrial areas of Lower Hutt and the river mouth area of Petone. Water resources in the catchment, including groundwater resources, are well developed and have been a primary factor in the population growth and development of the region.

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