

Queensland's coastal sand dunes

Coastal sand masses of southern Queensland

The southern Queensland region stretches from Coolangatta to Bundaberg and includes the nearby large sandy islands. The general distribution of coastal sand masses in this region is described in leaflet no.I-03.1.

This leaflet describes the coastal sand masses of Moreton Island.

Information on the coastal sand masses of Moreton Island (Figure 1) has been extracted from Thompson (1975).

Like Fraser Island (see leaflet no.I-03.2), Moreton Island consists mainly of massive sand deposits.

These deposits include: low dune, mobile sandsheet complexes; high transgressive dunes; low hilly areas; and undulating sandplains. The massive dunes were formed by sand blown inland by strong south-east trade winds during past glacial periods when the sea level was lower than it is today.



Figure 1. The coastal sand masses of Moreton Island (adapted from Thompson 1975).

The highest sand hill on Moreton Island is Mt Tempest, which is about 280m high. It is one of the highest sand dunes in the world.

The only rock outcrop on Moreton Island occurs in the Cape Moreton area. The Cape Moreton Lighthouse is located on this outcrop.

The eastern shoreline of Moreton Island consists of broad sandy beaches backed by low dune, mobile sandsheet complexes. These complexes are extensive on the southern end of the island. They are less than 30m high and partially aligned to the south-east winds. They are usually sparsely vegetated and highly unstable, with many active blowouts.

Low transgressive dunes aligned to the south-east winds and generally stabilised by vegetation occur on the eastern side of the island and inland from the low dune, mobile sandsheet complexes. These dunes are from 30 to 60m high and consist of sand which has been blown off the beach in relatively recent geological time.

High transgressive dunes, commonly 75-150m high and rising to more than 200m, dominate the central part of Moreton Island. These dunes have been blown over the truncated remnants of older sand deposits; in some places they extend across the island to form part of the western shoreline. Most of the high dune areas support an open forest vegetation.

Thick deposits of white silica sands occur mainly as rolling and low hilly areas in the northern portion of the island. These highly porous and infertile sands support stunted woodland and heath vegetation.

Remnants of an undulating sandplain occur near the northern end of the island. The landscape is usually less than 30m above sea level and has numerous shallow lakes separated by gently sloping sandplains and low sandy rises.

Reference:

Thompson, C.H. (1975) Coastal areas of southern Queensland: Some land-use conflicts. Proc.R.Soc.Qd. 86 (18): 109-120.



Eastern coastline of Moreton Island with Cape Moreton in the foreground.