

What are sand dunes?

Dunes are a collection of wind blown sand at the rear of a beach and range from less than one metre in height and width, to massive dune fields that extend for many kilometres.

Sand dunes often begin near the mouth of rivers which carry plenty of eroded sand to the coast.

The waves then drive the sand along the coast and onshore.

At low tide, when the sand dries out, it is blown onshore.

It's gathered and held by sand-binding plants- natives like pīngao/ pīkiao, spinifex or the introduced marram grass.

As the sand collects along the shore, new sand is pushed up the front or seaward facing slope and trapped by plants. It forms 'the foredune'.

Behind this system there can be several 'back dunes', but that depends on the shape of the coast and the history of development.

Back dunes are protected from the onshore winds by the foredunes. They're often more stable and may be thousands of years old.

Between the dunes, where the water table is high, swamps, wetlands and even large coastal lakes can form.

The wet sand gives these systems more stability than the surrounding dunes and flourishing plant and wildlife communities can grow there.

If the hollow between the dunes is free of water, wide sandy plains can form.

Use the information to help draw a diagram or build a model of a dune system.