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Sandy Coasts

That portion of the coast most familiar to most people is the beach, closely followed by the dunes, which are typically landward of the beach. Although they also occur on the mainland, both of these coastal elements are also typical of barrier islands, quite complicated and dynamic parts of the coast. In addition to the beach and dune environments, these islands include washover fans that commonly become vegetated to form back-island flats (Fig. 7.1). Along the coast, barrier islands are typically interrupted by tidal inlets. The landward portion of the barrier island may also include widespread marshes and tidal flats similar in general character to those that border estuaries. In many barrier island systems, the back-barrier water body is parallel to the island and rather narrow. These water bodies are typically called lagoons, coastal bays that have little or no fresh-water input or tidal exchange with the open ocean.

Barrier islands only account for about 12 to 15 percent of the world's coast, but they tend to be the most expensive and most highly developed coastal type. In a cause and effect framework, barriers are the depositional portion of the wave-dominated coast as contrasted to the estuaries that are at least significantly influenced, if not dominated, by tides. The other important aspect of wave-dominated coasts is erosional, typically rocky and will be treated in Chapter 8.

Barrier islands come in a variety of sizes, shapes, and origins (Fig. 7.2). In general, they are elongate accumulations of sand that range from a kilometer or so to over a hundred kilometers in length. Some are barely above high tide, and others have dunes that rise tens of meters above the sea. Barrier islands occur throughout the world, from the north slope of Alaska to the tropics of South America and Australia. They are most prominent on stable, trailing edge and

