



Figure IV-2-5. Glacial fjord coast: Alaska (Lake George, with Surprise glacier in the background)

(Georges and Nova Scotian Banks). South of the moraine, the topography is flatter and more regular, except for piedmont streams, which intersect the coastal plain.

e. Offshore geology. Coasts altered by glaciers usually have offshore regions that are highly dissected by relict drainage systems. These sinuous stream channels display highly irregular and varied topography and are composed of sediment types ranging from outwash sand and gravels to till. Note that relict stream channels are also found on continental shelves in temperate climates, for example, off the coast of Texas (Suter and Berryhill 1985). Channels from both temperate and colder environments, and the associated shelf-margin deltas, were formed during late Quaternary lowstands of sea level and are indicators of the position of ancient coastlines.

IV-2-5. River Deposition Coasts - Deltas

Deltas are discussed in Part IV-3. Because energy factors and deltaic structures are intimately linked, morphology and river mouth hydrodynamics are discussed together.

IV-2-6. Wind Deposition Coasts - Dunes

a. Introduction. Sand dunes are common features along sandy coastlines around the world. The only climatic zone lacking extensive coastal dunes is the frozen Arctic and Antarctic (although thin dune sheets on the coast of McMurdo Sound, Antarctica, have been described by Nichols (1968)). Sediment supply is probably the most crucial factor controlling growth of dunes; while there is rarely a lack of wind in most coastal areas, some lack sufficient loose sediment (Carter 1988). Dunes serve multiple valuable purposes: