COASTAL LANDFORMS (32)

I Main topics
A Sediment sources and sinks
B Beaches and coastal landforms

II Sediment budget
A Where sediment input > sediment loss: accretion
B Where sediment loss > sediment input: erosion
C Coastal landforms reflect long term geologic history and sediment budget

III Beaches and coastal landforms
A Beach: Accumulation of rock fragments that can be moved by ordinary wave action
   1 Berm: The above water portion of a beach
   2 Bar: The below water portion of a beach; bars typically extend to depths of ~10m below low tide level
   3 Effect of seasons on bars and berms

B Wave-cut platform/bench (e.g., Hanauma Bay)
C Wave-cut terrace: result from sea-level fall or land rise
D Deltas: sedimentary bodies deposited at a river mouth
   1 Sediment sources
   2 Marine influences
      a Currents and delta shapes
         i Stream-dominated ("birdfoot"): Distributaries prominent
         i i Wave-dominated: beaches prominent
      b Tides and tide flats
E Spits: attached, shore-parallel ridges form where there is a supply of sand, a transporting current, and a dumping ground (see D.2.a.ii)
F Barrier islands: low, elongate, shore-parallel islands (see D.2.a.ii)
   1 Emergence of offshore bars
   2 Submergence of beaches and beach dunes

G Lagoons: protected elongate or circular bay

H Reefs
   1 Indicate approximate level of sea level at the time of reef formation
   2 Elevated reefs indicate former sea level highstands or coastal emergence
   3 Submerged reefs indicate former sea level lowstands or coastal subsidence

I Estuaries: inundated stream valleys

J Fjords: inundated glacial valleys
LONGLSHORE DRIFT OF BEACH SAND

Longshore Drift

Incident Waves

Beach (berm)

LONGLSHORE CURRENT

Incident Waves

Rip Currents

Water height builds

Longshore Current

Breaker zone

Beach (berm)

Modified from Press and Siever, 1978