HANDOUT

DESERT DEPOSITIONAL FEATURES

1) **Dune -** a hill or ridge of wind-deposited sand; sand is trapped on a soft surface & a dune appears, it migrates as wind erodes sand from its windward surface & deposits it on its leeward surface. The leeward side has an angle of repose of about 30° while the windward side is gentler. Dune sand has a narrower range of grain sizes than beach or river sand. Wind gathers dunes into vast dune fields. Dunes can be stabilized by plants.

Types of Dunes - depends on wind strength & direction, sand supply, & vegetation.

a) **transverse or akle** - at right angles to the wind; occurs where vegetation is sparse & sand is plentiful
b) **barchan or crescentic -** crescent-shaped with horns pointing downwind; occurs in dry vegetation-free areas with limited sand
c) **parabolic -** similar in shape to barchan but facing opposite direction (i.e. horns point upwind); occurs in moist areas with vegetation
d) **longitudinal or seif -** linear ridges aligned in direction of wind
e) star **or** rhourds - caused by winds from many directions, dune grows vertically
f) **grid** - caused by seasonal or long-term changes in wind direction

2) **Drift** - streamlined heaps of sand trapped in the wind shadows behind obstacles, they do not move

3) **Sand Ripples** - trains of sand in straight & regular ripples caused by the wind with coarser grains on the crests & smaller ones in troughs (opposite of those caused by water; by observing ripples in ancient sandstone, it can be determined what type of environment they were laid down in)

4) Loess - wind-deposited silt originating in glacial outwash plains or in desert regions

5) Alluvial Fans - caused by streams flowing from mountainous areas to flat areas & the sediment builds up at the base of these mountains; poor sorting

6) Bajadas (Alluvial Aprons) - alluvial fans that join together laterally