**Wind Erosion and Desert Landforms** Name:

Unit 2: Gradational Processes Period:

Geography 12

A **desert area is one in which the annual rainfall is not sufficient to maintain a continuous cover of vegetation.** Still, with the haphazard occurrence of rainfall and prolonged period of drought, another agent, ***the wind***, has an opportunity to play a major part in the creation of desert landforms.

With **few plants to anchor the debris** and **little vegetation to restrict air movements,** the strong winds of the desert are able to whip up the smaller rock fragments and carry them along. This process creates distinct features associated with arid areas.

**Deserts of the World**

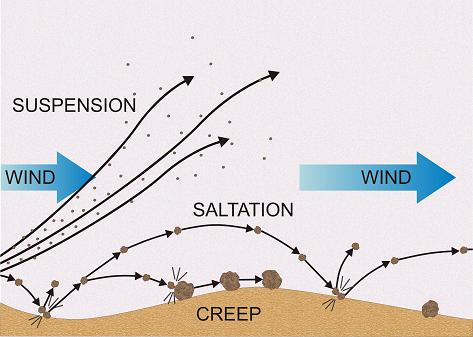


**Factors that cause desert regions:**

1. Latitude
2. Cold Ocean Currents
3. Ocean influence
4. Mountain barriers

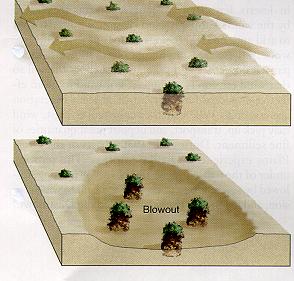
**Deserts and Wind Action**

* Strong winds carry light surface materials are carried by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Movement of sand in the desert is largely by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ particles roll and bounce along the ground.



* Moving sand can have an **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** power on existing landforms.
* Strongest close to the ground and create features called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



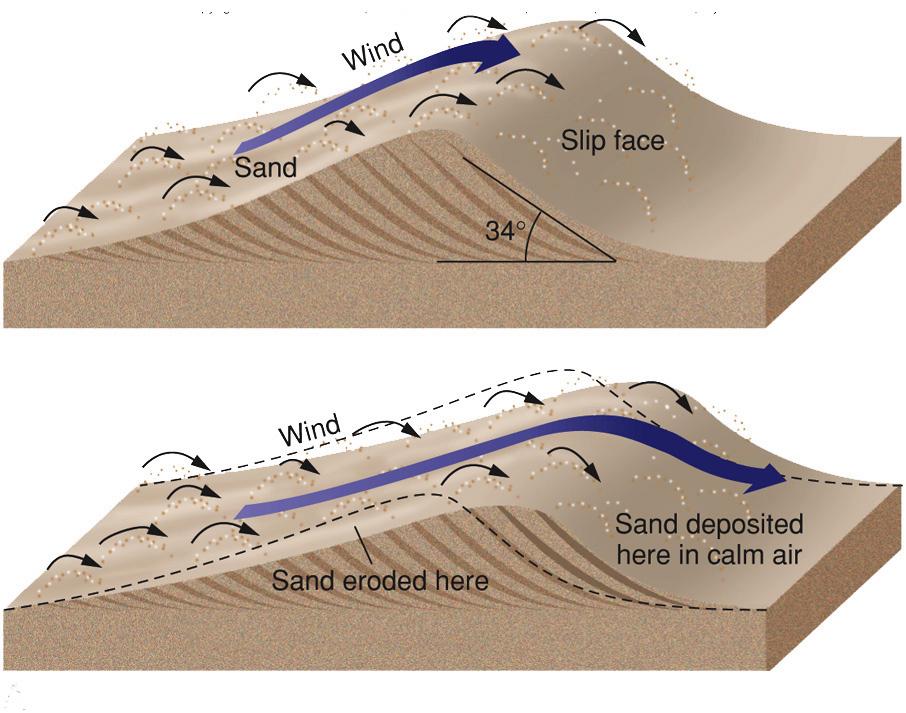
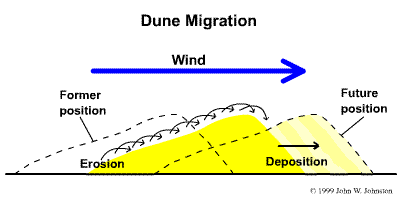


**Deflation**

* Refers to wind blowing away sand, silt and clay in deserts so that underlying rocks become exposed.
* The resulting landforms are deep hollows called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and stony landscapes called **badlands**.

**Sand dunes**

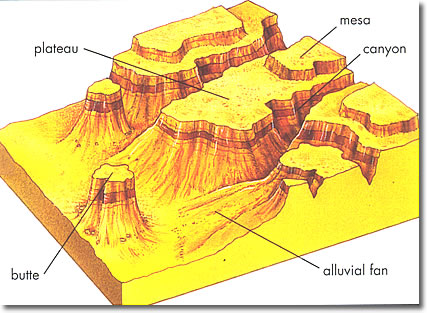
* as wind blows sand over the desert landscape, deposits of sand may collect against some obstruction like a boulder and over time a sand dune will take shape.
* Long, gentle slope on windward side and steep slope on leeward side 🡪 **slip face.**
* **Dune Migration**: long gentle slope on windward slope and roll or slide down to the slip face
* In areas where winds blow the same direction dunes migrate.

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**Types of Sand Dunes**

|  |  |  |
| --- | --- | --- |
| **Dune Type** | **Formation** | **Diagram** |
| **Transverse** | **-** Abundant sand needed  - Continuous sand ridge forms at right angles to wind |  |
| **Barchan** | - Crescent shaped  - Forms over small boulder  - Horns point downwind  - Sand blows up the windward slope and slides down the slip face |  |
| **Parabolic** | - Crescent shaped  - Horns point up wind  - Vegetation anchors the horns |  |
| **Longitudinal** | - Found in deserts where only a thin layer of sand is present  - Winds blow continuously in one direction  - Long and straight parallel to the wind |  |

**Desert Landforms:**



A) **label and define** the following features on the diagram provided:

* Plateau
* Canyon
* Butte
* Alluvial fan
* Playa
* Mesa
* Bolson
* Erg

b) **add** the four types of sand dunes and wind direction on the diagram provided: