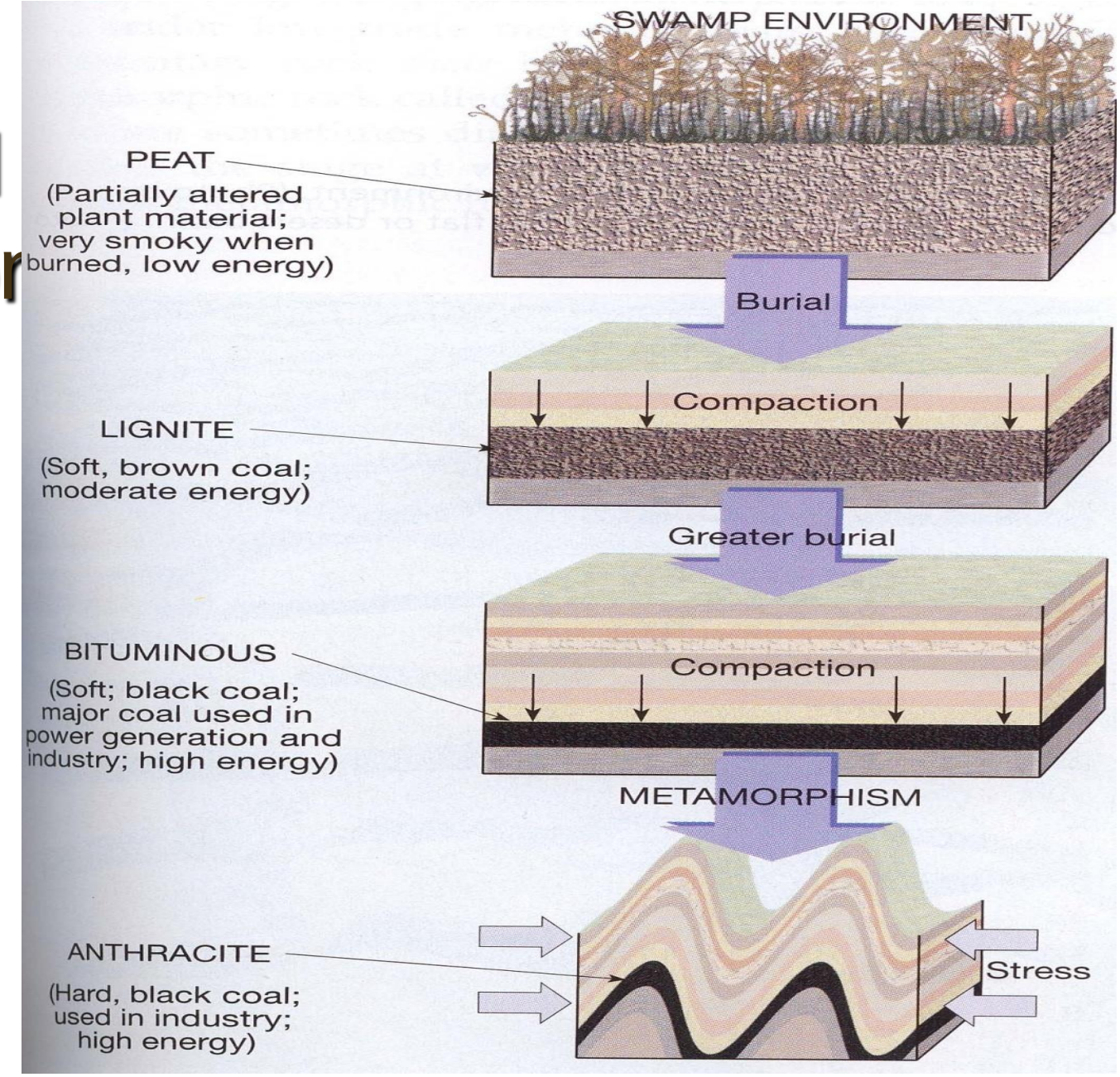
Salt crust along the shore of the Dead Sea

Chalk layers: fine grained friable limestone = shells of micro-organisms

Salt flat

ID
NV
Great
Salt
Lake
WY
Salt Lake
City
Bonneville
Salt Flats
UT

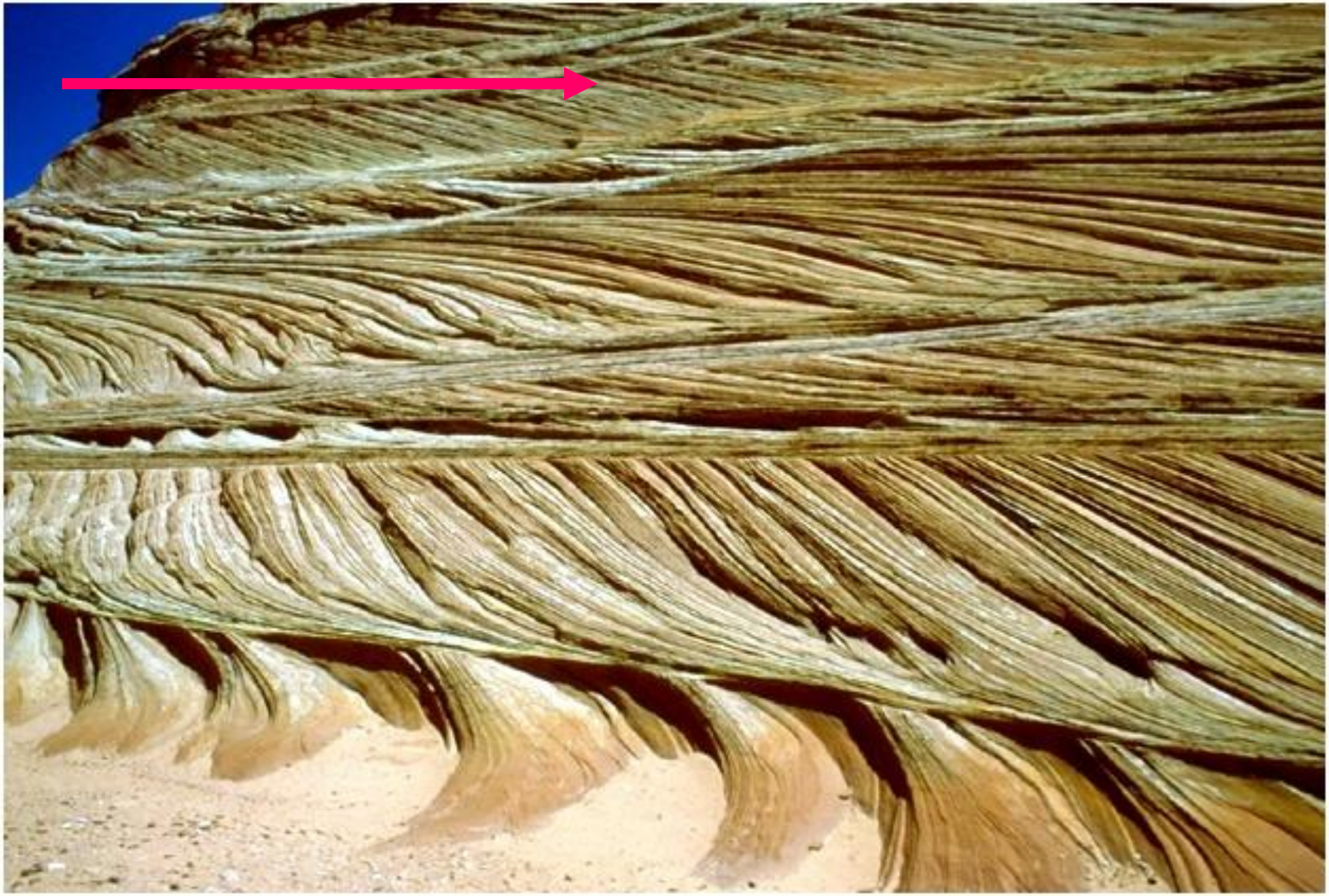
Stages of Coal formation



Stratification=bedding=layering

Folded thin beds of evaporites along shore of the Dead Sea

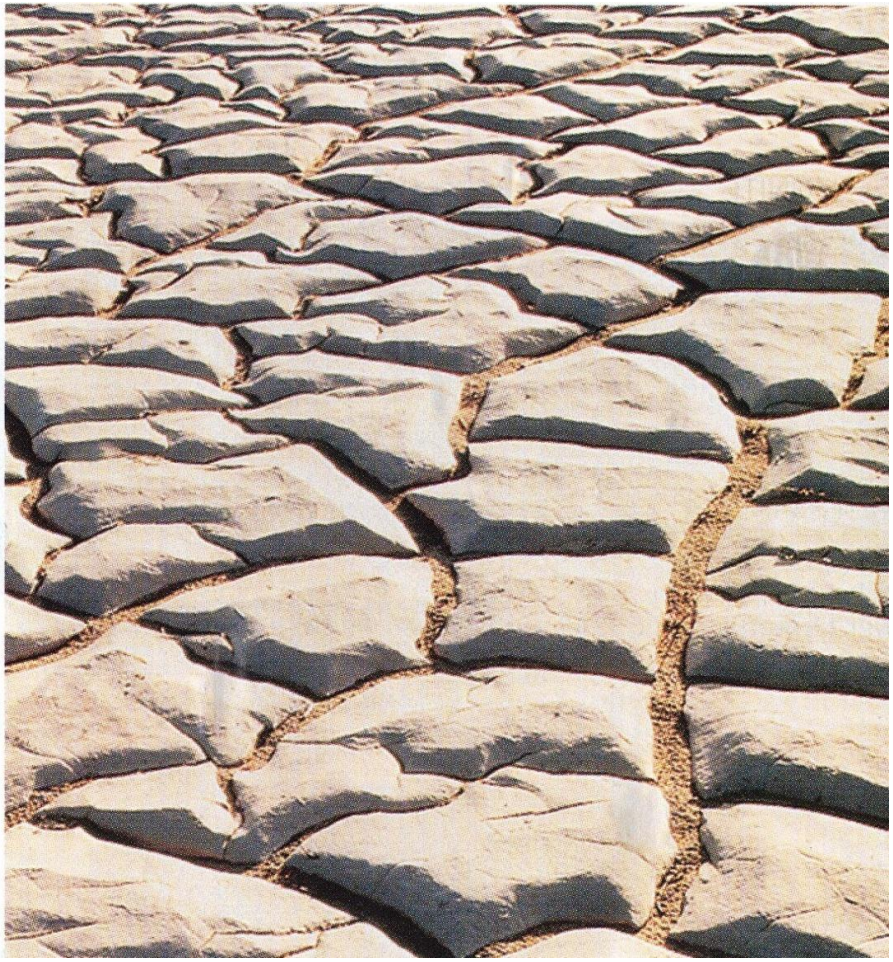
Cross beds in sandstones

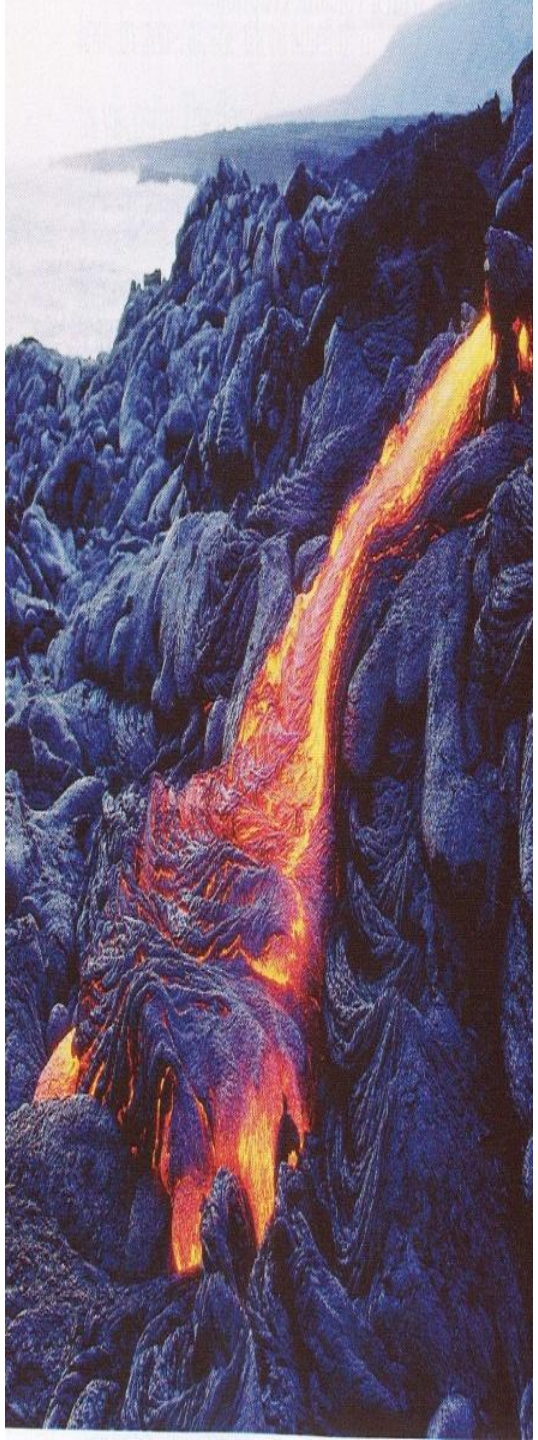


Sedimentary structures

Ripple marks

Mud cracks





Rocks: Materials of solid Earth Igneous Activity

Prof. Dr. Ziad Abu-Hamatteh
Faculty of Engineering Technology
Al-Balqa Applied University
Civil Engineering Department

Nature of Volcanic Eruptions

- What determines whether a volcano extrudes its magma violently or gently?
- Primary factors include: composition, temperature and amount of dissolved gasses

Property	Basaltic magma	Andesitic magma	Granitic magma
Silica content	Least (about 50%)	Intermediate (about 60%)	Most (about 70%)
Viscosity	Least ("thinnest")	Intermediate	Greatest ("thickest")
Tendency to form lavas	Highest	Intermediate	Least
Tendency to form pyroclastics	Least	Intermediate	Greatest
Melting temperature	Highest	Intermediate	Lowest

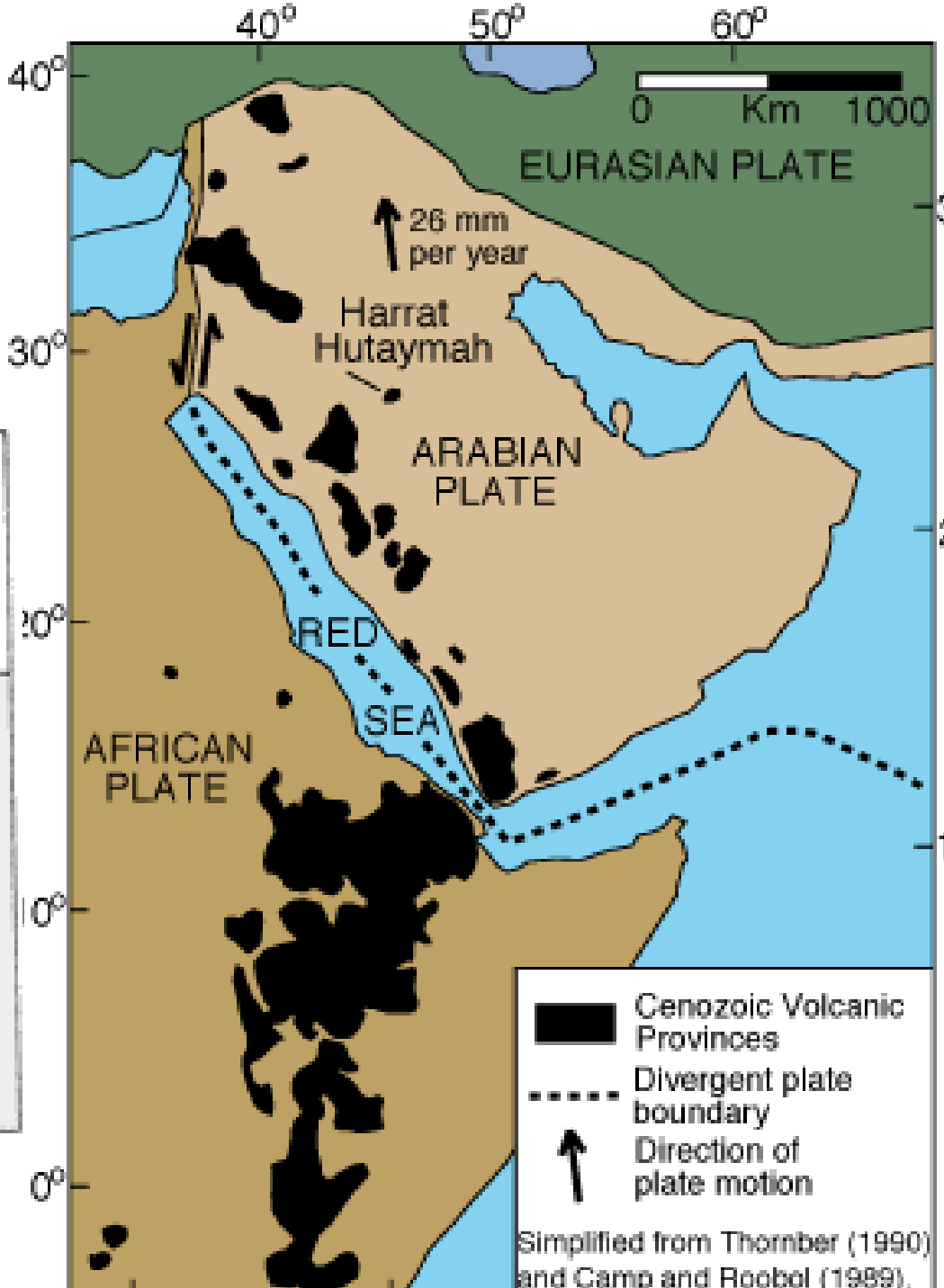
Gases under pressure in the magma provides the force that extrudes molten rock from a volcanic vent

Materials extruded during a volcanic activity

- Lava Flows
- Gases (volatiles): 1-5% most of which H_2O followed by CO_2, N, S, Cl, H, Ar etc.
- The fluid content of magmas generally decreases from granitic (~6%)to basaltic(~1.5)
- Pyroclastics (pyro = fire; clast = fragment) these include = ash, dust, lapilli (small beads to walnuts); larger fragments are given the names = blocks and bombs.

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.

Ash

Pyroclastic Flow

Cenozoic Volcanic Provinces