



Encyclopedia of Engineering Geology

Living Edition

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Physical Weathering

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Synonyms

Disintegration (<http://link.springer.com/search?facet-content-type=ReferenceWorkEntry&query=Disintegration>); **Fragmentation** (<http://link.springer.com/search?facet-content-type=ReferenceWorkEntry&query=Fragmentation>); **Mechanical weathering** (<http://link.springer.com/search?facet-content-type=ReferenceWorkEntry&query=Mechanical%20weathering>); **Slaking** (<http://link.springer.com/search?facet-content-type=ReferenceWorkEntry&query=Slaking>)

Definition

Physical weathering of rocks consists of their physical disintegration, without chemical weathering, by several physical actions such as (a) significant diurnal and/or seasonal thermal variations, (b) expansion and fracturing of rock due either to stress relief or increase of pressure in rock pores and fissures by expansion volume associated with water freezing, and (c) mechanical actions of several weathering agents such as water

flow, glaciers, wind, living organisms (e.g., roots of trees, cavities made by rodents), and the growth of poorly soluble salts, in rock pores, either by crystallization pressure, such as hydration pressure or by differential thermal expansion. These are of fundamental importance in the breakdown and fragmentation of rocks.

Introduction

The weathering of rocks is an important geological phenomenon because it leads to the formation of soils (whether residual or sedimentary),...

Keywords

Clay Crystallization Shrinkage Shale Beach

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