

Sedimentology and Stratigraphy

Sedimentology studies sand, mud (or silt) and clay, and the various ways they are deposited. Using these studies, sedimentologists apply their understanding of modern processes to ancient rock, to try to understand how it formed. Most of the rocks on earth are sedimentary rocks, and it is in these kinds of rocks you find fossils and many of the other historical markers. Sedimentary rocks are also where petroleum deposits are found. Sedimentology is tied to stratigraphy, which studies the relationships between rock layers and how they can shift and move. This also affects where petroleum deposits can be found, as well as how the extraction of petroleum affects the sediment around the deposit. Sedimentary rocks cover up to 75% of the Earth's surface, record much of the Earth's history, and harbor the fossil record. Sedimentology is closely linked to stratigraphy, the study of the physical and temporal relationships between rock layers or strata. The premise that the processes affecting the earth today are the same as in the past is the basis for determining how sedimentary features in the rock record were formed. The aim of sedimentology, studying sediments, is to derive information on the depositional conditions which acted to deposit the rock unit, and the relation of the individual rock units in a basin into a coherent understanding of the evolution of the sedimentary sequences and basins, and thus, the Earth's geological history as a whole.

The scientific basis of this is the principle of uniformitarianism, which states that the sediments within ancient sedimentary rocks were deposited in the same way as sediments which are being deposited at the Earth's surface today. This Text introduces the reader to sedimentology and stratigraphic principles, and provides tools for the interpretation of sediments and sedimentary rocks.



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