

Geology



Geology includes the study of the earth's crust, its structure, the chemical composition and the physical properties of its components. Rock formations are located within the crust, their formation is studied and measurement is made of the forces that create, bend and shape mountains, basins, faults, volcanoes and earthquakes. Geology also examines the erosion of rocks and the deposition of the loose materials. It also reveals the physical history of the Earth.

Geology has important practical impacts in relation to human's needs, activities and industries. Firstly, geologic knowledge is used in the search for ore deposits, fuels and industrial minerals and the exploitation of those mineral resources. Also, geological advice concerning the selection of sites and materials is also necessary in the success of many engineering projects such as tunnel, reservoirs, hydroelectric schemes, docks, tall buildings and dams. For example, a dam will fail if it is built near active faults or on a porous foundation; roads could be washed out or blocked by landslides if they are not well located; or homes built on hillside could be destroyed by landslides and mudflow.

Geology is also being used to help guide urban planning to avoid damages caused by earthquakes by providing guidelines included in the National Building Code which help to set some standards in the design of buildings to make them as earthquake proof as possible. Geology also helps to predict, locate and mitigate for natural hazards such as earthquakes, landslides, but also avalanches and volcanoes.