

Role of climate in soil formation :

Rainfall, temperature, humidity / Evaporation and wind are the climatic factors that strongly influence soil formation. Soil forming factors are of two types —

① Active

② Passive

The active soil weathering forming factors not only cause weathering and Pedogenesis but also provide energy for the process. They include climate and biological world.

Monday The most important climatic factors influencing soil formation are discussed as follows —

① Humidity : Atmospheric humidity determines the rate of ground water evaporation. A more humid environment stimulates the process of weathering and pedogenesis while environmental aridity slows down the same.

② Rainfall : Abundance and periodicity of rainfall directly influence on weathering and atmospheric humidity. Excessive rain produces coarse textured soil due to solubilisation of clay of the soil that deposited in the lower subsoil. Low precipitation reduces pedogenesis. It increases daily variation of soil temperature breaking rocks into coarse

gravel or sand particles. Through evaporation underground soluble salt comes to over top soil. Salts are deposited on the soil surface forming saline or alkaline soils.

(iii) Temperature :

variation of Temperature and frost formation cause rapid weathering. High Temperature reduces humus formation, while cooler condition promote formation of soil profile.

(iv) Wind :

It has many effects including weathering through sand blast, decreasing soil moisture through high evaporation and removal of top fertile soil by its mechanical force.

Thus climate of an area played a major role in soil formation. Two different parent materials may develop same soil in one type of climate, whereas the same parent material may produce different types of soil in different types of climates.