Understanding the Weathering Process around Pookode, Wayanadu District, Kerala

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Natural lakes on Earth are generally found in mountainous areas, rift zones, and areas which receive active monsoon rains. The chemical composition of a lake is fundamentally a function of weathering of the bedrock exposed around, climate (which affects its hydrology) and its basin geology. To understand the weathering process around Pookode, sediment cores were collected from a high altitude area in Kerala. This area forms a part of the Western Ghats hills in Wayanadu district, Kerala. Samples were analyzed to understand the sediment characteristics and the geochemical variation along the Pookode lake sediment core. The lake sediments were analyzed for major oxides like SiO₂, CaO, Fe₂O₃, Al₂O₃, K₂O, Na₂O, Organic Carbon etc. These oxides reveal variation along the down core that can be correlated to soil erosion processes around the site studied. Textural analysis delineated that sand concentration is high at the surface and bottom sediments of the core, while the fine silt and clays varied with sand concentration between the sediment core indicating fluctuating hydrological regimes and the region evidence low chemical weathering which is proved by Chemical Index of Alteration.