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## Effects of Different Land Cover on the Hydrogeochemical Feature of Epikarst Water

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Epikarst water system is always considered as important water resource for southwest China karst mountain areas, but epikarst water is extremely sensitive to environmental change. Vegetation, as a significant natural environmental factor of karst ecological environment, can not only indicate the characteristics of karst ecological environment, but affect the chemical property of transporting water. Thus, in order to comprehend the rainfalls' impact on karst process after the leaching and adsorption process of karst vegetation and soil, this research analyses the change of physical and chemical feature of rainfalls after infiltrating through vegetation layer and soil layer under different land cover. This research selected three sites of different land cover of the mountain area in Nanchuan city of Chongqing, and respectively determine their chemical index in one hydrologic year such as water temperature, PH, Ec, Ca<sup>2+</sup>, K<sup>+</sup>, Na<sup>+</sup>, Mg<sup>2+</sup>, Sr<sup>2+</sup>, HCO<sub>3</sub><sup>-</sup>, Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>2-</sup> of rainfalls, through-falls, epikarst spring and soil water at various depths. And the results show that: rainfalls are acidized after infiltrated through vegetation layer and their

PH drop, but due to the calcium-rich and slightly alkaline feature of karst soil, their PH will rise again and thus mitigate acidification; because of the leaching process of vegetation, the sum of chemical substance of rainfalls will increase, but beside the leaching process, the soil at different depths will exert adsorption process on different ions; the Ca<sup>2+</sup> and HCO<sub>3</sub><sup>-</sup> concentration in different epikarst spring is in a descending order as: Boshuwan spring(masson pine forest), Languagou spring(corns), Hougou spring(with no vegetation coverage), which indicates that better vegetation coverage conditions will accelerate karst process in positive direction. Consequently, the study of the physical and hydrochemical features of epikarst with different land cover in karst mountain areas is significant in facilitating the restoration of the ecological environment in southwest desertification mountain areas.

**Key words:** epikarst water, karst vegetation, soil water, Nanchuan

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