KARST DYNAMIC FEATURES OF EPIKARST ZONE AND SIGNIFICANCE FOR ENVIRONMENTS AND RESOURCES

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Epikarst zone is in the cross-over point among atmosphere, lithosphere, biosphere and hydrosphere. It is wide-spread in south China, but its size, landforms and location are influenced by geological and climatic factors. The tropical and subtropical monsoon climate in south China can create strong karst dynamic conditions, containing mean annual rainfall 1000-2000 mm, high average air temperature 14-21 centigrade degree,and high soil air CO2 content from 3000 up to 50000 ppm, so the carbon,water and calcium cycles are active and rapid. The karst dynamic processes in epikarst zone are much stronger than the deep karst part, which result in high solution rate and hardness of water. As a result, high CO2 flux sinks in karst water. The karst dynamic processes in epikarst zone are sensible to environmental change, which can provide environmental information in a short time scale. Epikarst zone is a base of marvellous peak-cluster karst. With epikarst zone, the water cycle in karst mountain area can be divided into two parts: shallow water flow in the epikarst zone and conduit flow in the deep karst zone. And the shallow water cycle is very important for water supply in karst mountains where the underground karst water is deep.