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## Time Series Analysis of Soil Water on Forest Land in Beijing Mountain Area

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**Abstract:** By using time series analysis, the relationships between soil moisture content and precipitation in four main mountain forests in Beijing were studied from March to October, 2010. The results showed that precipitation was not an autocorrelation series, while soil moisture content was, 20 ~ 40 cm layer was most relevant; the precipitation and soil moisture content had a significant correlation, Pinus tabulaeformis and Robinia pseudoacacia were mainly affected by current month's precipitation, Platycladus and Quercus variabilis were mainly affected by the former month's precipitation; different soil layers' moisture content had different correlation with precipitation, indicating the impact of precipitation on different soil layers was also different.

**Key words:** Beijing mountain area; forest land; soil moisture content; time series analysis

### 封面照片说明:拉萨河中游河谷地貌及植被景观

拉萨河为雅鲁藏布江中游左侧支流,总体流向自东北向西南,主要穿行于近东西向的念青唐古拉山脉的中部和西部,河源地带海拔约 5 500 m,西侧分水岭地带的念青唐古拉山主峰——念青唐古拉峰海拔高达 7 162 m,东缘分水岭地带的米拉山海拔 5 020 m,至拉萨市城区一带海拔降至 3 650 m 左右。受东部的米拉山阻隔等地形因素的影响,印度洋的潮湿水汽很难到达拉萨河流域,因此,流域在气候上主要属于高原温带—寒温带半干旱季风气候,植被类型以灌丛草原、亚高山灌丛草甸和亚高山草甸为主,并有明显的垂直变化。照片为拉萨河中游达孜县境内的河谷地貌及植被景观。

(嘉益)