

Variability and trend analysis of precipitation during 1961-2015 in Southwest Guizhou Autonomous Prefecture (SGAP), China

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ABSTRACT

Information on variability and trends of precipitation over a region is useful in the agricultural production management. The linear regression analysis, 5-year moving average, accumulated anomaly and Mann-Kendall trend detection were used to assess the variability and trends in precipitation over Southwest Guizhou Autonomous Prefecture (SGAP) region of China. The results revealed that the annual precipitation showed an increasing trend at Wangmo and Xingren and decreasing trends at Anlong, Ceheng, Pu'an, Qinglong, Xingyian and Zhenfeng stations. The UF(k) and UB(k) curves of each region have intersections, except in Ceheng and Xingren, and this indicated that the precipitation has seen a abrupt change in six stations. The results of this study will provide theoretical guidance for agricultural water management in Southwest Guizhou Autonomous Prefecture of China.

Key words: Precipitation, accumulated anomaly, Mann-Kendall trend detection test, SGAP