
AHW019-P02

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The effectiveness of forest age and dominant tree species on discharge duration curves.

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The effect of forest age and dominant tree species on water discharge volume are analysed and reported by comparing discharge volumes in each period with corresponding variations in forest features in two adjacent catchments of the Tatsunokuchi-yama Experimental Forest located in the western part of Japan. The control period encompassed from 1937 to 1943, and the treatment periods were 1948-1953, 1968-1977 and 1996-2003. In these treatment periods, either the forest age or the dominant tree species differed between the two adjacent periods. Variations in the discharge duration curves from two catchments were then compared across the control and the treatment periods. A significant change in the discharge duration curves was recognised from 1996 to 2003 during low water days, which might have been due to the differences in forest age and forest treatment immediately after disturbance by fire or pine wilt disease.

Keywords: paired watershed experiment, long-term observation, warm low precipitation