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Forest watershed runoff changes determined using the unit hydrograph method

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Unit hydrograph is a basic method to show changes in runoff in the watershed. The investigation of runoff changes was carried out in the U Dvou louček watershed situated at the summit part of the Orlické hory Mts., East Bohemia. The waveform ordinates of recession limbs of unit hydrographs obtained using a common approach had to be approximated by the least-squares method. Final hydrographs reflected both drainage treatment and forest stand growth influencing the runoff from the watershed. Both factors increase culmination in synergy and reduce runoff on the recession limb of the hydrograph. We confirmed increased maximum runoff taking up 25–30% of the total runoff time when waterlogged sites were drained. The culmination increased by 0.2–0.8 mm/hour indicates the runoff increased by 2–8 m³/ha/hr.

Keywords:

forest watershed; drainage; runoff; double-mass curve; unit hydrograph

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