



Comparison of runoff formation in the Jizerské Mts. and the Šumava Mts., Czech Rep., using tracer experiment

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Three tracing experiments were carried out at three places – two in the Jizerské Mts. and one in the Šumava Mts. Czech Republic in the vicinity of local stream. Study site was composed of the sprinkling plot (5x5 m) and digged trench at the lower part of the sprinkling plot with plastic gutters in each soil horizons. The sprinkling process was divided into several intervals in 6 days. Stream water was sprinkled during first intervals to rise soil moisture and to get the soil profile saturated. Then, stream water enriched of NaCl was used. Salt free stream water was sprinkled again during last interval.

Water was sampled every thirty minutes from the stream and from the gutters which were connected on tipping buckets to measure the amount of subsurface flow in different layers. Electric conductivity was measured directly in the stream.

Results showed different subsurface flow. Two experiments in the Jizerské Mts. reported deep percolation without any preferential flow patterns, while experiment in the Šumava Mts. proved dominant preferential flow. Although the sprinkling water exceeded several times the highest rainfall event measured in local area, all experiments had low response in the stream below the sprinkling plot.