Appendix 1

Figure A1: Leakage of soil water at the foot hill in 2007. The arrows indicate the line of leakage between the soil cover and the bed rock. The water was collected between soil and bedrock (arrows, left picture) where it easily could be collected in the same manner as shown in Figure A2.

Figure A2: Leakage of soil water at the foot hill in 2009. The arrows indicate the line of leakage between the soil cover and bed rock close to the river bed along the foot slope. The right picture shows the sampling bottle, while water was collected.

Figure A3: The trench (metal sheet) which was used to collect surface runoff. The picture was taken after a storm event 2007, before the bucket was emptied. The bucket is covered during events to avoid dilution by direct rainfall and is cleaned from substrate, whenever it is emptied.

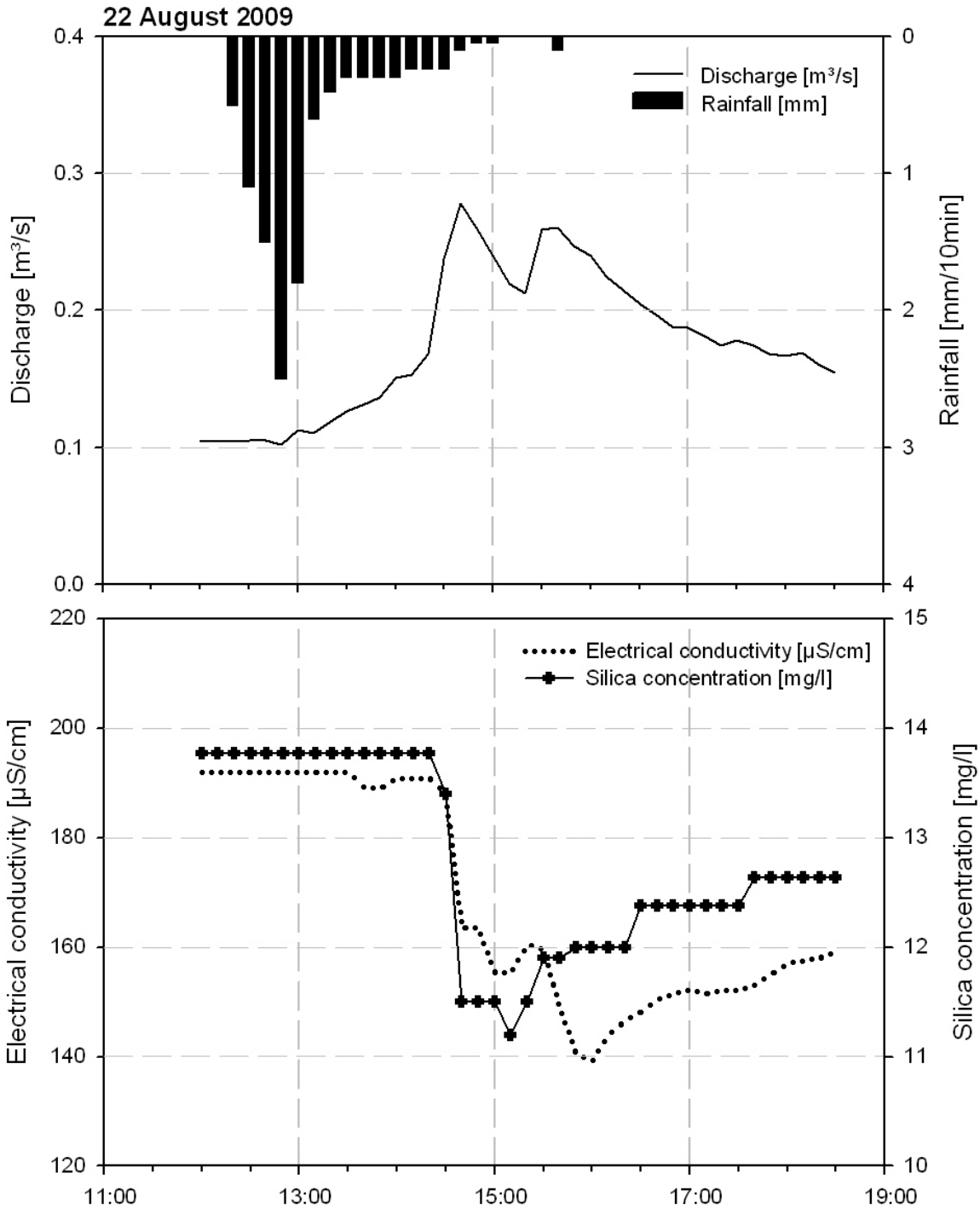

Figure A4: Rainfall, discharge, electrical conductivity and silica concentration during the event of 22 August, 2009 (Duffner et al., in preparation).

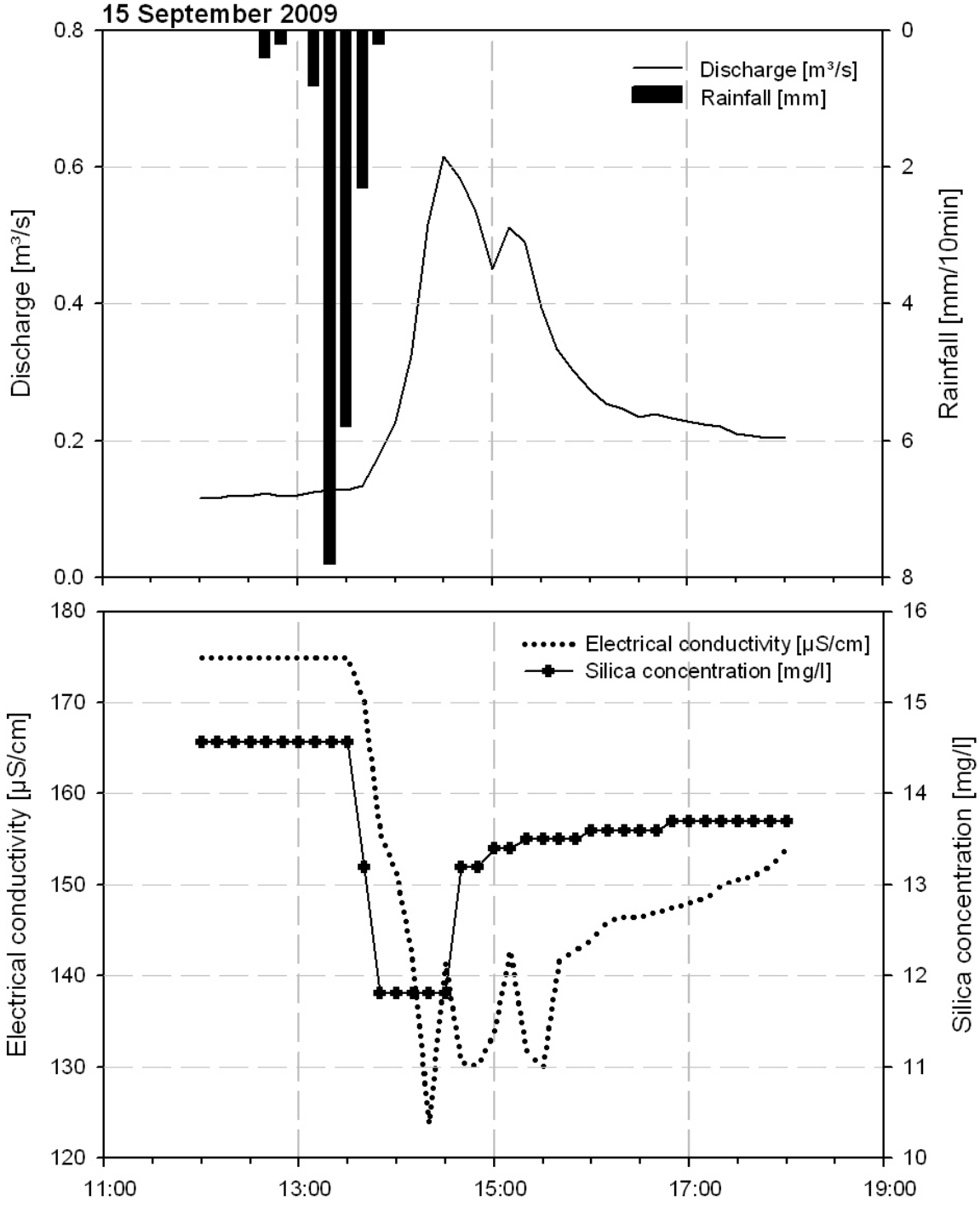

Figure A5: Rainfall, discharge, electrical conductivity and silica concentration during the event of 15 September, 2009 (Duffner et al., in preparation).

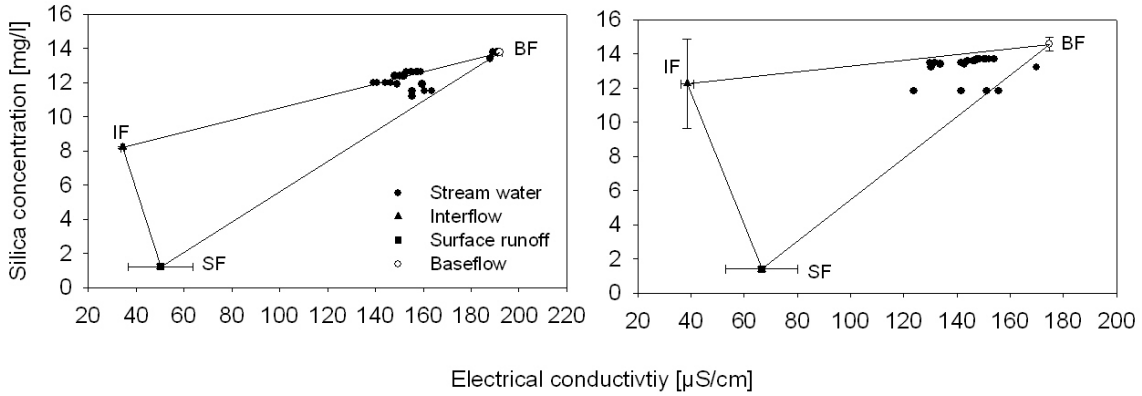

Figure A6: Hydrochemical mixing triangles for the events 22 August (left) and 15 Setpember (right), 2009 (Duffner et al., in preparation). Components are baseflow (BF), interflow (IF) and surface runoff (SF).

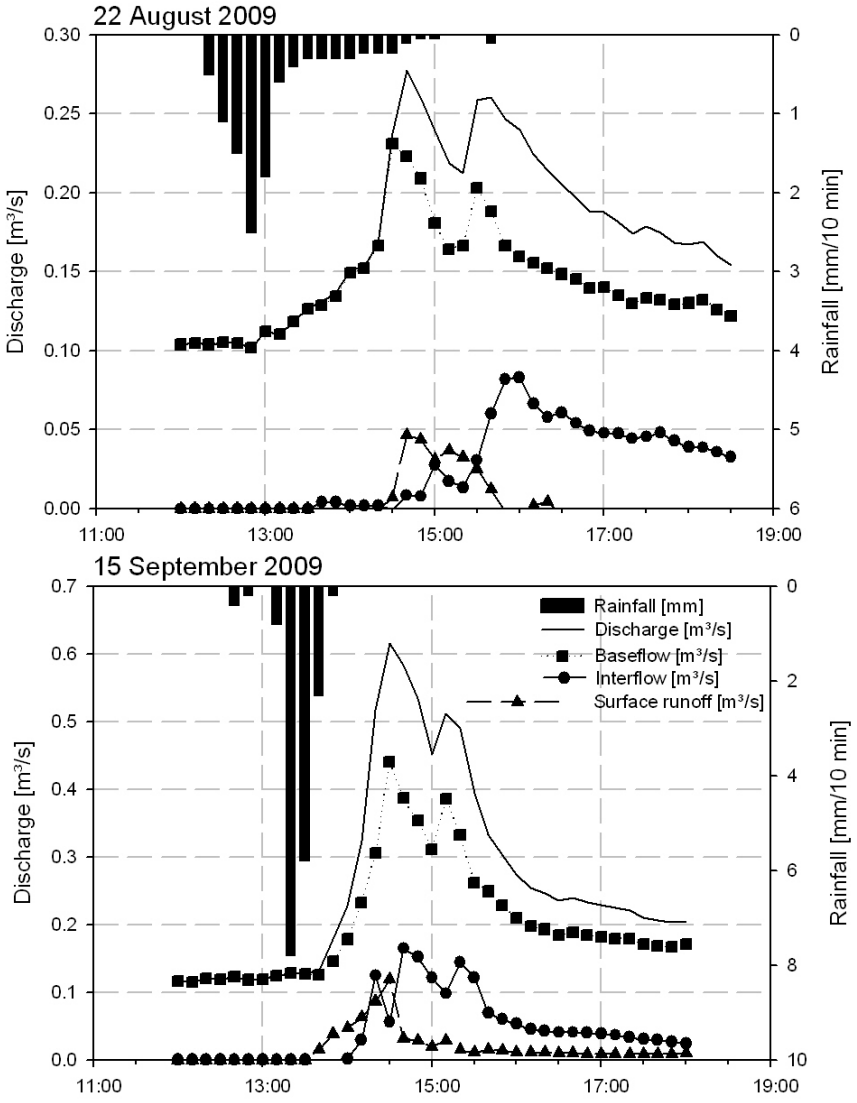

Figure A7: Results of the hydrograph separation based on the components, BF, IF and SF (Figure A6), of the events 22 August and 15 September, 2009 (Duffner et al. in preparation).

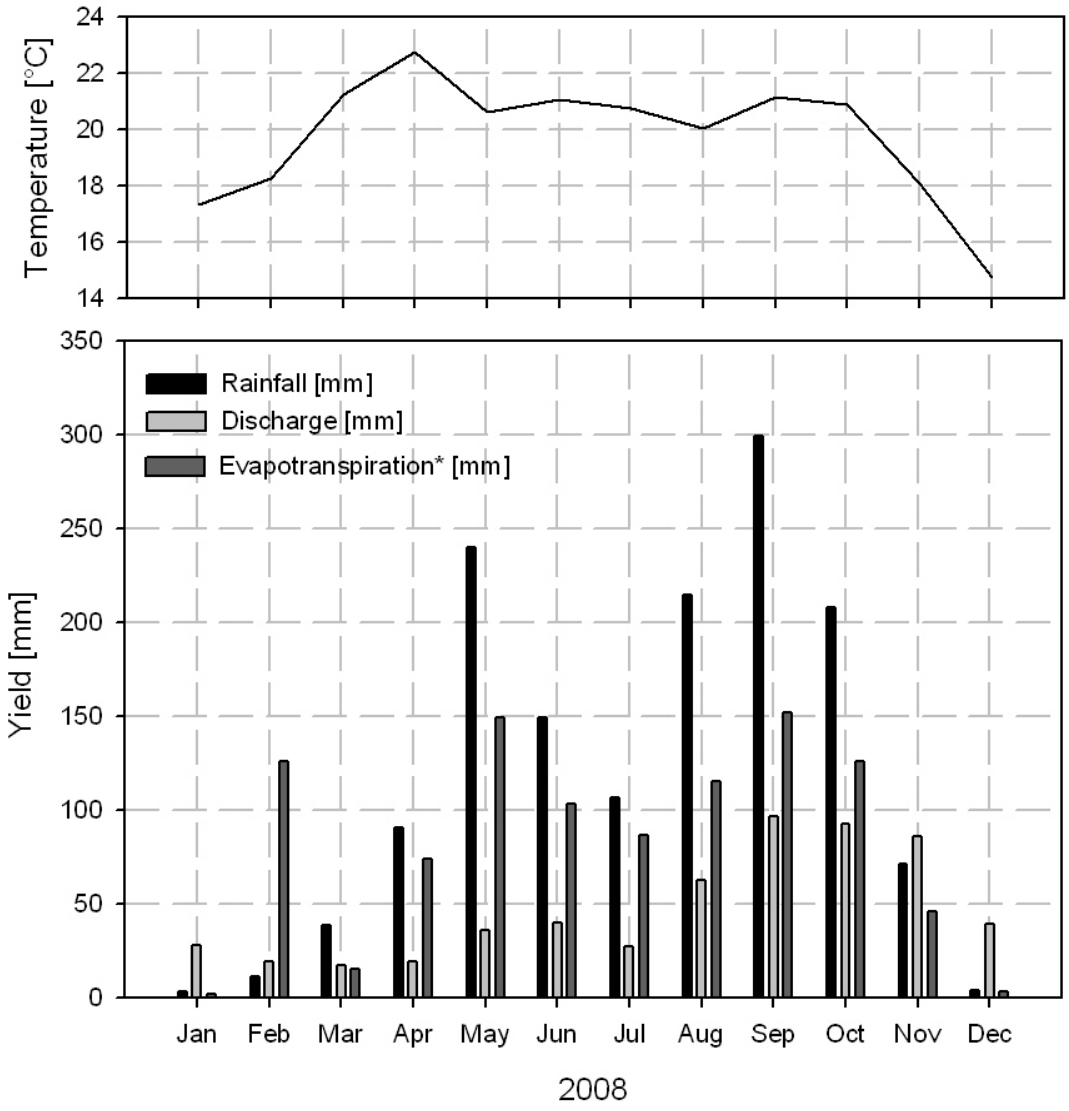

Figure A8: Temperature, rainfall, discharge and evapotranspiration in 2008 as an example for the climatic conditions in the study area. Temperature and rainfall are recorded at the weather station close to the discharge gauge.

Table A1: Mean concentration and standard deviation of water samples of stream flow before the event, interflow, surface runoff and rainfall taken during September and October 2007.

	Stream flow before event (n=20)*	**Interflow (n=20)****	**Surface runoff (n=7)**	**Rainfall (n=4)**
	Mean ± standard deviation			
EC [µS/cm]	135.86 ± 9.22	29.35 ± 1.04	37.95 ± 23.21	9.48 ± 5.88
Silica [mg/l]	19.89 ± 1.10	14.64± 6.18	11.84 ± 0.88	n.a.
Cl^- [mg/l]	1.31 ± 0.12	0.07 ± 0.03	0.97 ± 0.78	0.42 ± 0.47
NO_3 [mg/l]$^-$	2.45 ± 0.46	3.39 ± 0.94	5.29 ± 3.29	0.69 ± 0.37
SO_4^{2-} [mg/l]	1.41 ± 0.18	0.13 ± 0.02	2.29 ± 1.54	0.83 ± 0.72
Na^+ [mg/l]	4.90 ± 0.36	4.62 ± 0.79	0.27 ± 0.19	0.29 ± 0.34
NH_4^+ [mg/l]	n.d.	n.d.	5.52 ± 3.17	0.72 ± 0.23
K^+ [mg/l]	5.46 ± 0.85	1.72 ± 0.27	7.62 ± 3.47	0.39 ± 0.24
Ca^{2+} [mg/l]	22.90 ± 5.63	1.20 ± 0.31	1.55 ± 0.8	0.52 ± 0.28
Mg^{2+} [mg/l]	5.89 ± 0.95	0.16 ± 0.02	0.63 ± 0.37	0.12 ± 0.04

(n.a.: not available; n.d.: not detected; number of silica samples differs for * (n=15) and ** (n= 10))