

Table 1 Names and coordinates (decimal degrees N and E) of the app spots and pen-and-paper stations used in this study, the location of the water level measurements, the number of observations, the number of contributors, the correlation between the WL-class observations and the measured water levels (Kendall's τ) and the corresponding p-values. The water level data were obtained from the state departments of hydrology of Niederösterreich (Amt der Niederösterreichischen Landesregierung – Abteilung für Hydrologie und Geoinformation; NOE) and Salzburg (German: Amt der Salzburger Landesregierung – Abteilung Wasser; ASL), the Bavarian Hydrological Service (Gewässerkundlicher Dienst Bayern; GKD), the Swiss Federal Office for the Environment (FOEN), the Departments of Hydrometry for two Swiss cantons, or our own measurements using Keller DCX-22 pressure sensors and water levels measured by the École Polytechnique Fédérale de Lausanne (EPFL) using TruTrack WT-HR 1000 water level loggers.

Number	Station Name	Observation period	Coordinates WL measurements [N, E]	Source water level data	Coordinates WL-class observations [N, E]	Distance between WL and WL-class locations [km]	Number of observations	Number of participants	Kendall's τ	p-value
App spots in Austria										
A1	Kleine Erlauf - Wieselburg	30.03.2018 – 02.08.2019	48.1273, 15.1330	NOE	48.1255, 15.1292	0.3	73	1	0.78	<0.01
A2	Königseeache - Hallein	05.01.2018 – 10.09.2018	47.6458, 13.0303	GKD	47.7261, 13.0650	9.3	505	4	0.86	<0.01
A3	Salzach - Salzburg	26.08.2018 – 21.09.2019	47.7982, 13.0539	ASL	47.7896, 13.0686	1.5	245	3	0.90	<0.01
App spots in Switzerland										
A4	Aare - Zollikofen	10.09.2017 – 30.04.2019	46.9333, 7.4480	FOEN	46.9904, 7.4508	6.4	172	2	0.80	<0.01
A5	Alp-Einsiedeln	29.11.2017 – 30.05.2019	47.1508, 8.7393	FOEN	47.1277, 8.7432	2.6	47	8	0.69	<0.01
A6	Dünnern-Balsthal	19.06.2018 – 22.06.2019	47.3022, 7.6975	Canton of Solothurn	47.3034, 7.6950	0.2	149	1	0.67	<0.01
A7	Limmat-Zürich	05.05.2017 – 17.02.2019	47.3908, 8.5257	FOEN	47.3919, 8.5233	0.2	73	6	0.71	<0.01
A8	Rhein-Sevelen	26.05.2018 – 11.06.2019	47.3067, 9.5710	FOEN	47.1301, 9.5114	20.2	46	2	0.65	<0.01
A9	Urtene Moosseedorf	21.06.2018 – 27.06.2019	47.0728, 7.5426	Canton of Bern	47.0301, 7.5116	5.3	113	1	0.45	<0.01

Pen-and-paper stations (all in Switzerland)

P1	Alp - Einsiedeln	10.03.2018 – 01.11.2018	47.1508, 8.7393	FOEN	47.1277, 8.7432	2.6	23	23	0.39	0.02
P2	Kleine Emme – Emmen	30.04.2018 – 30.05.2019	47.0706, 8.2773	FOEN	47.0706, 8.2773	0.0	28	28	0.05	0.74
P3	Kleine Emme – Werthenstein	28.04.2018 – 30.05.2019	47.0349, 8.0685	FOEN	47.0349, 8.0681	0.0	45	45	0.47	<0.01
P4	Limmat – Zürich	22.05.2017 – 15.06.2018	47.3906, 8.5254	FOEN	47.3918, 8.5234	0.2	202	194	0.50	<0.01
P5	Ova da Fuorn – Swiss national Park	12.08.2017 – 21.10.2017	46.6551, 10.1900	FOEN	46.6568, 10.1927	0.3	36	35	0.21	0.10
P6	Sellenbodenbach – Neuenkirch	04.05.2018 – 24.05.2019	7.1128, 8.2102	FOEN	7.1128, 8.2102	0.0	26	26	0.08	0.61
P7	Sihl – Sihlhölzli	11.05.2017 – 21.07.2018	47.3678, 8.5262	FOEN	47.3690, 8.5280	0.2	80	76	0.24	0.01
P8	Sihl – Sihlwald	16.10.2016 – 12.05.2019	47.3678, 8.5262	FOEN	47.2714, 8.5566	11.0	128	118	0.50	<0.01
P9	Wigger – Zofingen	03.05.2018 – 21.05.2019	47.2836, 7.9350	FOEN	47.2836, 7.9354	0.0	25	24	0.47	<0.01
P10	Dorfbach – Küsnacht	30.11.2017 – 26.12.2018	47.3126, 8.6338	pressure sensor	47.3126, 8.6333	0.0	34	31	0.57	<0.01
P11	L'Avancon de Nant – Vallon de Nant	04.05.2018 – 26.06.2019	46.2315, 7.1019	water level logger	46.2316, 7.1022	0.0	70	70	0.29	<0.01
P12	Tomenbach – Sihlwald	28.01.2018 – 22.04.2019	47.2678, 8.5460	pressure sensor	47.2684, 8.5476	0.1	50	47	0.21	0.06