

How do geological map details influence geology-streamflow relationships in large-sample hydrology studies?

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Contents of this file

Table S1 to S2

Introduction

This document provides information on the 63 regional basins used for the large-scale analysis (Table S1), on the 152 Moselle sub-catchments used for the intermediate and local-scale analysis (Table S2).

Table S1: General overview of the 63 basins used. The outlet code is given according to the used in EStreams.

Basin id (outlet)	Gauge name	River	Longitude	Latitude	Area (km ²)	N of gauges
ES000801	ORELLANA		-5.65010	39.01844	26470.6	34
ES000665	PALMA DEL RIO		-5.28893	37.71745	32359.4	43
ES001243	TALAVERA		-4.81613	39.95435	33576.9	94
ES000196	VALLADOLID-PISUERGA		-4.73236	41.66117	15578.4	37
ES000194	BRETO		-5.76546	41.87223	14406.8	33
ES001080	SALVATIERRA DE MIÑO		-8.49274	42.08053	15650.5	39
ES000316	CASTEJON		-1.69474	42.18008	25155.7	76
ES000339	SEROS		0.41627	41.45157	12929.5	37
ES000331	FRAGA		0.32335	41.55191	9567.5	25
GB000472	Severn at Haw Bridge	Severn at Haw Bridge	-2.23000	51.95000	9892.2	29

GB000271	Thames at Kingston	Thames at Kingston	-0.31000	51.42000	9937.2	40
GB000153	Trent at North Muskham	Trent at North Muskham	-0.80000	53.14000	8215.2	30
ITTO0361	S. Giovanni alla Vena valle	Arno	10.58534	43.68459	8900.2	31
ITVE0408	Adige a Boara Pisani	Adige	11.78424	45.10548	12020.9	36
ITPI0183	PO	PONTE S.S. 211	8.82194	45.03611	25565.8	62
FI000557	Merikoski	Oulujoki	25.47342	65.02264	22830.4	31
FI000226	Voikkaa	Kymijoki	26.59789	60.93871	34932.7	50
FI000137	Harjavalta	Kokemäenjoki	22.11420	61.33749	25430.7	29
PL000936	ZAMBSKI KOŚCIELNE	Narew (26)	21.20609	52.75597	28500.0	70
PL000868	KOŚMIN	Wieprz (24)	22.00125	51.57310	10200.0	25
PL000794	RADOMYŚL	San (22)	21.93069	50.67356	16700.0	50
HR000048	TEREZINO POLJE	DRAVA	17.46128	45.94572	34230.5	152
HUGR0037	BACSA	MOSONI-DUNA	17.67600	47.72500	17785.7	68
AT000393	Angern an der March	March	16.83384	48.38306	25615.6	119
PL000253	SKWIERZYNA	Warta (18)	15.50015	52.60194	31600.0	60
PL000349	GOŚCIMIEC	Noteæ (188)	15.63837	52.77555	16500.0	35
PL000015	ŚCINAWA	Odra (1)	16.44346	51.40882	29700.0	143
CZ000097	Kostelec nad Labem	Labe	14.59261	50.23795	13183.4	71
DEST1711	Leuna-Kröllwitz	Saale	12.04943	51.30570	12065.6	47
DEBY0711	Passau	Inn	13.44419	48.56145	26054.7	141
DEBY0724	Deggendorf	Isar	12.88358	48.77090	8960.0	45
DEBY0697	Kelheim	Donau	12.01499	48.94695	26479.5	115
DEBU1953	BundespegelFrankfurt Osthafen	Main	8.71500	50.10600	24800.0	142
NL000008	Venlo	Meuse	6.16018	51.36881	26066.7	181
CH000026	Rheinfelden- Messstation	Rhein	7.80000	47.56000	34485.4	131
FR002679	W3200010	L'Isère à Saint-Gervais [Le Port]	5.46564	45.20680	9974.5	33
FR004615	La Saône à Mâcon [amont]	La Saône à Mâcon [amont]	4.83065	46.29679	26198.0	139
NL000016	Schaar van Ouden Doel	NaN	4.25066	51.35029	9500.0	39
BEVL0155	Evergem	Ringvaart	3.66643	51.08988	10231.2	36

FR000408	H7611010	L'Oise à Creil et à Pont-Sainte-Maxence	2.46051	49.25568	14128.5	59
FR000373	H5841070	La Marne à Créteil	2.46690	48.80523	12811.0	54
FR000345	NaN	La Seine à Alfortville et à Villeneuve-Saint-G...	2.41830	48.78024	30706.8	123
FR001071	K4080010	La Loire à Saint-Satur	2.86667	47.34120	34120.5	174
FR003922	Le Cher Ã SavonniÃ`res	Le Cher à Savonnières	0.54601	47.34857	13699.3	51
FR003986	La Vienne Ã Chinon	La Vienne à Chinon	0.23839	47.16594	20819.2	95
FR002118	NaN	La Charente à Saintes	-0.62973	45.74708	7394.8	32
FR001952	P5550010	La Dordogne à Pessac-sur-Dordogne	0.07804	44.82123	14885.0	82
FR002029	Q3120030	L'Adour à Dax [Pont des arènes]	-1.05389	43.71220	7811.6	53
FR001604	O2620010	La Garonne à Verdun-sur-Garonne	1.24218	43.85464	13752.1	64
FR004221	Le Tarn Ã Villemade	Le Tarn à Villemade	1.27076	44.08484	9718.3	49
ES001171	GUARDAMAR (PRESA DE S. ANTONIO)		-0.66159	38.09265	14858.6	45
ES001010	HUERTO MULET		-0.40995	39.18825	21330.6	30
PL000536	SANDOMIERZ	Wisa (2)	21.74623	50.67261	31800.0	175
HR000278	JASENOVAC	SAVA	16.90745	45.26670	28721.6	108
CZ000236	Vraňany	Vltava	14.36263	50.31318	28062.1	122
DEST1707	Priorau	Mulde	12.29547	51.73154	7021.0	40
DEBE0155	Tiefwerder	Havel	13.20501	52.52444	12253.9	50

FR002758	X3500010	La Durance à Caumont-sur-Durance [Bonpas]	4.92320	43.88880	14025.8	34
FR002462	V3000015	Le Rhône à Lyon	4.83096	45.74811	20551.7	88
FR001394	M4101910	La Maine à Angers	-0.55890	47.47156	22176.0	91
FR000867	J9300611	La Vilaine à Rieux	-2.12636	47.58011	10146.5	45
FR004308	Le Lot À Villeneuve-sur-Lot	Le Lot à Villeneuve-sur-Lot	0.70122	44.40931	10748.6	55
DEBU1959	BundespegelCochem	Mosel	7.16800	50.14300	27100.0	152

Table S2: General overview of the 152 sub-catchments of the Moselle. The basin id is given according to the code used in EStreams.

Basin id	Area (km ²)	Longitude	Latitude	Start	End	N° of years
BEWA0066	357.8	6.152	50.188	1/1/1998	12/31/2021	24
BEWA0067	101.0	6.263	50.289	1/1/1999	12/31/2021	23
BEWA0087	209.6	5.739	49.834	6/4/1976	12/31/2021	46
BEWA0106	58.5	6.151	50.197	9/3/1991	12/31/2021	31
BEWA0107	77.1	6.154	50.234	9/3/1991	12/31/2021	31
BEWA0119	395.5	6.142	50.142	1/1/1992	12/31/2021	30
DEBU1956	11500.0	6.369	49.473	1/1/1975	7/31/2021	46
DEBU1957	6970.0	6.648	49.409	1/1/1953	7/31/2021	68
DEBU1958	23800.0	6.627	49.732	1/1/1931	7/31/2021	89
DEBU1959	27100.0	7.168	50.143	1/1/1901	7/31/2021	120
DERP2003	3250.0	6.359	49.851	11/1/1958	12/31/2021	64
DERP2004	615.0	6.171	49.985	11/1/1972	12/31/2021	50
DERP2005	125.0	6.154	49.993	11/1/1976	12/31/2021	46
DERP2006	54.0	6.440	50.219	11/1/1975	12/31/2021	47
DERP2007	576.0	6.437	49.868	11/1/1972	12/31/2021	50
DERP2008	101.0	6.323	49.970	11/1/1975	12/31/2021	47
DERP2010	137.0	6.500	50.064	11/1/1973	12/31/2021	49
DERP2011	264.0	6.462	49.883	11/1/1956	12/31/2021	66
DERP2013	530.0	7.419	49.254	11/1/1952	12/31/2021	70
DERP2014	430.0	7.371	49.205	11/1/1962	12/31/2021	60
DERP2015	112.0	7.365	49.180	11/1/1972	12/31/2021	50

Basin id	Area (km ²)	Longitude	Latitude	Start	End	N° of years
DERP2016	77.0	6.542	49.602	11/1/1962	12/31/2021	60
DERP2017	102.0	6.694	49.615	11/1/1972	12/31/2021	50
DERP2018	225.0	6.727	49.762	11/1/1985	12/31/2021	37
DERP2021	176.0	6.601	50.334	11/1/1972	12/31/2021	50
DERP2022	301.0	6.671	50.224	11/1/1976	12/31/2021	46
DERP2023	472.0	6.603	50.135	11/1/1972	12/31/2021	50
DERP2024	819.0	6.643	49.835	11/1/1967	12/31/2021	55
DERP2027	63.0	6.614	50.238	11/1/1972	12/31/2021	50
DERP2028	50.0	6.718	50.048	9/1/1966	12/31/2021	56
DERP2029	192.0	6.808	49.946	11/1/1972	12/31/2021	50
DERP2030	170.0	6.940	49.827	12/7/1955	12/31/2021	67
DERP2031	124.0	6.894	49.789	11/1/1972	12/31/2021	50
DERP2033	377.0	6.954	49.941	11/1/1972	12/31/2021	50
DERP2036	177.0	7.079	50.067	11/1/1976	12/31/2021	46
FR000124	71.2	6.796	47.867	1/1/1972	9/30/2023	52
FR000125	151.5	6.686	47.909	8/30/1968	9/30/2023	56
FR000126	184.5	6.716	47.993	11/2/2005	9/30/2023	19
FR000127	185.3	6.713	47.996	4/20/1967	12/14/2006	40
FR000128	628.0	6.611	48.067	12/1/1961	9/30/2023	63
FR000132	95.6	6.752	48.185	6/26/1986	9/30/2023	38
FR000133	356.0	6.605	48.134	1/1/1970	3/24/1988	19
FR000134	1500.7	6.391	48.312	10/16/2014	9/30/2023	10
FR000135	1979.5	6.264	48.532	1/1/2010	9/30/2023	14
FR000136	172.3	6.150	48.214	1/2/2010	9/30/2023	14
FR000137	114.1	6.175	48.260	1/1/1980	9/30/2023	44
FR000138	382.2	6.136	48.303	4/2/1994	9/30/2023	30
FR000139	382.3	6.137	48.305	8/10/1965	9/28/2006	42
FR000140	3078.6	6.101	48.607	9/16/1988	9/30/2023	36
FR000142	369.5	6.957	48.284	8/30/1967	9/30/2023	57
FR000143	152.1	6.885	48.382	8/12/1969	12/31/1984	16
FR000144	117.8	6.878	48.416	1/1/1970	9/30/2023	54
FR000148	112.8	6.845	48.588	1/1/2010	9/30/2023	14
FR000151	98.4	6.687	48.295	1/1/1970	12/31/2009	40
FR000153	299.4	6.614	48.369	2/18/1992	9/30/2023	32
FR000154	289.5	6.342	48.628	1/1/1988	9/30/2023	36
FR000156	2783.5	6.272	48.643	12/31/1985	9/30/2023	39
FR000158	2881.7	6.189	48.705	1/1/1960	12/30/1990	31
FR000159	2882.9	6.179	48.711	1/2/1991	4/14/2023	33

Basin id	Area (km ²)	Longitude	Latitude	Start	End	N° of years
FR000160	85.2	6.198	48.747	8/7/1971	12/23/2005	35
FR000163	7763.8	6.054	49.031	4/26/2014	9/30/2023	10
FR000169	149.3	6.506	48.818	1/1/1969	9/30/2023	49
FR000171	1272.1	6.188	49.101	10/1/1964	9/21/2015	52
FR000174	132.2	5.837	49.099	12/4/1998	9/30/2023	26
FR000175	379.5	5.862	49.156	10/12/1967	2/27/2003	37
FR000183	70.8	7.009	48.655	8/1/1968	9/30/2023	56
FR000184	90.0	7.064	48.640	8/1/1968	9/30/2023	56
FR000185	188.5	7.014	48.680	8/1/1968	12/30/2010	43
FR000187	404.4	7.012	48.983	1/1/1967	12/30/1994	28
FR000189	1784.2	7.071	49.112	1/1/2008	5/2/2022	15
FR000190	3745.1	7.044	49.122	10/1/1975	1/9/2018	28
FR000191	1717.9	7.264	49.237	1/1/2014	9/30/2023	10
FR000192	1798.5	7.184	49.136	1/1/2014	9/30/2023	10
FR000193	1812.6	7.178	49.116	9/27/1977	12/30/1994	18
FR000197	184.8	6.859	49.187	1/1/1966	3/12/2006	36
FR000198	328.9	6.383	49.029	1/1/2003	9/30/2023	21
FR000200	499.4	6.421	49.147	1/1/1969	9/30/2023	53
FR000201	185.9	6.614	49.047	4/28/1984	9/30/2023	40
FR003234	64.5	6.690	48.053	8/6/1970	9/30/2023	54
FR003236	356.0	6.603	48.133	3/30/1988	9/30/2023	36
FR003237	1218.1	6.453	48.166	1/1/1960	9/30/2023	64
FR003238	146.0	6.409	48.304	1/1/1971	12/30/1988	18
FR003239	103.1	6.367	48.293	1/1/1970	9/30/2023	54
FR003241	1985.7	6.260	48.536	8/20/1980	9/30/2023	41
FR003243	63.9	6.192	48.375	1/1/1980	6/30/2008	29
FR003244	143.6	6.140	48.531	8/6/1969	6/12/2007	39
FR003246	945.9	6.132	48.545	1/20/1964	9/30/2023	60
FR003247	65.9	5.909	48.626	1/1/1983	2/12/2008	26
FR003249	3396.8	5.896	48.670	1/1/1960	9/30/2023	64
FR003250	67.1	7.003	48.185	7/8/1971	9/30/2023	53
FR003251	725.3	6.845	48.402	11/1/1973	9/30/2023	51
FR003252	934.4	6.739	48.449	12/17/1982	4/13/2023	36
FR003253	1103.0	6.481	48.583	12/18/1982	9/30/2023	36
FR003254	112.8	6.844	48.588	1/1/1996	4/2/2023	28
FR003255	107.9	6.879	48.588	4/1/1990	12/29/2007	18
FR003256	471.3	6.625	48.581	1/20/1992	9/30/2023	32
FR003257	561.0	6.487	48.595	1/1/1969	9/30/2023	55

Basin id	Area (km ²)	Longitude	Latitude	Start	End	N° of years
FR003258	98.4	6.686	48.296	1/1/2010	9/30/2023	14
FR003259	64.7	6.646	48.324	12/14/1990	4/28/2010	21
FR003261	490.6	6.524	48.487	11/1/1969	9/30/2023	55
FR003262	2310.6	6.384	48.563	1/2/1973	9/30/2023	51
FR003263	71.0	6.717	48.689	10/22/1969	12/17/2005	37
FR003265	6822.7	6.122	48.790	1/26/1973	9/30/2023	51
FR003266	226.2	6.043	48.866	8/7/1969	9/30/2023	55
FR003267	363.1	5.962	49.012	8/18/1964	9/30/2023	60
FR003268	351.8	6.568	48.781	8/23/1985	9/30/2023	39
FR003270	556.5	6.457	48.784	12/30/2002	9/30/2023	22
FR003271	926.7	6.228	48.888	1/1/1969	9/30/2023	55
FR003272	9391.5	6.197	49.223	1/1/1960	2/19/2013	54
FR003273	9425.7	6.185	49.256	11/26/2012	9/30/2023	12
FR003274	135.7	5.632	49.214	1/1/1997	9/30/2023	26
FR003275	399.5	5.830	49.163	10/12/1967	9/30/2023	56
FR003276	155.6	5.876	49.142	1/1/2013	9/30/2023	11
FR003277	828.2	5.882	49.168	1/1/2007	9/30/2023	17
FR003280	74.7	5.933	49.247	6/15/1967	9/30/2023	57
FR003281	1147.0	6.042	49.249	12/25/2003	9/30/2023	21
FR003283	1242.0	6.072	49.256	12/17/1967	9/30/2023	57
FR003284	10801.2	6.173	49.317	10/2/1981	9/30/2023	43
FR003288	108.8	6.272	49.392	1/1/1971	9/30/2023	53
FR003290	53.1	6.024	49.445	8/5/2014	9/30/2023	10
FR003293	254.0	7.050	48.737	12/26/1995	9/30/2023	29
FR003294	147.5	7.071	48.850	1/1/1969	9/30/2023	55
FR003295	715.8	7.055	48.877	7/1/1970	9/30/2023	54
FR003296	882.0	7.039	48.970	1/1/1967	9/30/2023	57
FR003297	407.2	7.019	48.997	5/27/2011	9/30/2023	13
FR003298	1312.9	7.034	49.005	1/1/2008	9/30/2023	16
FR003299	152.4	7.188	48.942	1/1/2010	9/30/2023	14
FR003300	278.2	7.130	49.000	5/1/1968	9/30/2023	56
FR003301	1716.5	7.150	49.053	12/31/1996	9/30/2023	28
FR003302	1759.0	7.107	49.087	1/1/1964	6/23/2021	57
FR003303	95.2	7.472	49.127	10/25/1969	9/30/2023	50
FR003306	58.1	6.689	49.226	1/1/1980	9/30/2023	44
FR003307	366.0	6.446	49.142	1/1/1969	9/30/2023	55
FR003308	1166.5	6.545	49.324	5/29/2002	9/30/2023	22
FR003309	1147.1	6.539	49.301	11/6/1964	1/11/2006	43

Basin id	Area (km ²)	Longitude	Latitude	Start	End	N° of years
LU000001	308.5	5.801	49.870	1/1/2002	7/31/2021	20
LU000002	291.8	6.056	49.785	1/1/2002	7/31/2021	20
LU000004	147.6	6.028	50.055	1/1/2010	7/31/2021	12
LU000005	449.3	6.126	50.050	1/1/2002	7/31/2021	20
LU000006	2173.6	6.162	49.867	1/1/2002	7/31/2021	20
LU000007	1115.8	6.099	49.845	1/1/2002	7/31/2021	20
LU000008	430.8	5.951	49.901	1/1/2002	7/31/2021	20
LU000009	307.0	6.149	49.586	1/1/2002	7/31/2021	20
LU000010	163.7	6.080	49.729	1/1/2002	7/31/2021	20
LU000011	427.9	6.025	49.947	1/1/2002	7/31/2021	20
LU000013	257.4	6.115	49.526	1/1/2002	7/31/2021	20
LU000014	733.3	6.116	49.753	1/1/2002	7/31/2021	20
LU000015	946.5	6.091	49.895	1/1/2002	7/31/2021	20
LU000016	387.3	6.132	49.621	1/1/2002	7/31/2021	20
LU000017	4255.5	6.510	49.786	1/1/2002	7/31/2021	20
LU000018	83.6	6.101	49.723	1/1/2002	7/31/2021	20
LU000019	638.4	6.205	49.939	1/1/2002	7/31/2021	20