Hydrological data book Lac de Sorne 1995–2024

Inflow, precipitation and snow of the Sorne catchment upstream of the Barrage de la Sorne · edition 2025

Compiled by Élodie Fournier, hydrologist, Hydro Val-Sorne SA, Les Ecots · data status 31.01.2025

Mean inflow	Driest year	Wettest year	Spring share of inflow	Mean SWE on 1 April
9.00 m³/s	2022	2024	22%	780 mm
1995–2024, 285 hm³ per year	221 hm³ (-22%)	367 hm³ (+29%)	was 14% in 1995–2004	Col de Sorne, 2,450 m

Catchment and installations

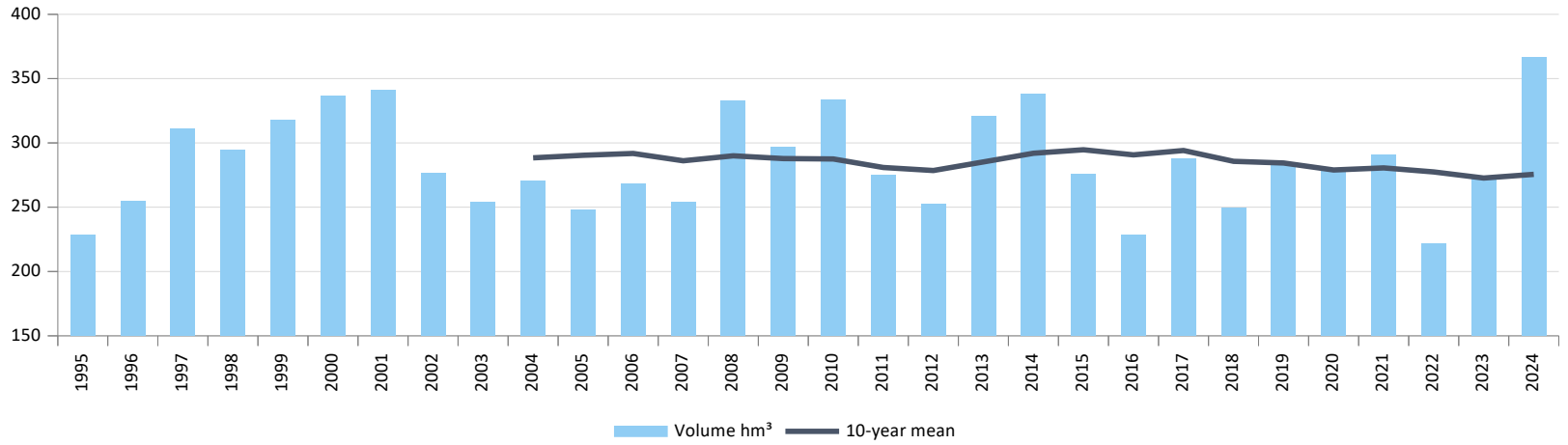
Catchment area at the dam	**186 km²**
Mean elevation	**2,280 m a.s.l.**
Glaciation 1995 / 2024	**9.6 % / 7.1 %**
Usable storage Lac de Sorne	**98.4 hm³**
Full supply level	**2,038.0 m a.s.l.**
Les Ecots power house	**2 Pelton units, 2 × 52 MW**
Vernay power house	**3 Francis units, 3 × 21 MW**
Mean production 2015–2024	**641 GWh/a**
Water royalty 2024	**CHF 110 per kW**

Measuring stations

Code	Station	Elevation	Parameter	Interval
SR-12	Sorne – Les Ecots	1,468 m	Discharge	00:10
LE-01	Les Ecots climate station	1,480 m	Precipitation	00:10
CS-24	Col de Sorne snow station	2,450 m	Snow water eq.	01:00
LS-00	Lac de Sorne dam gauge	2,040 m	Reservoir level	00:15
VR-03	Vernay tailrace	1,052 m	Turbine flow	00:01

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Annual inflow volume (hm³) and 10-year moving mean



Year at a glance

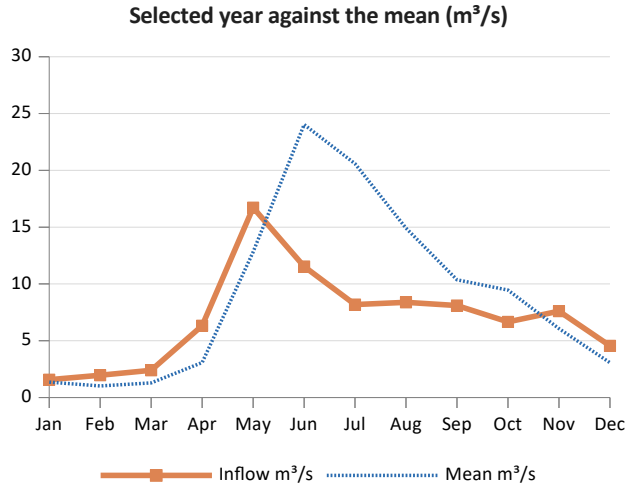
Year 2022

Month	Inflow m³/s	Mean m³/s	Precip. mm	Mean mm	SWE mm
Jan	1.57	1.35	94	125	339
Feb	1.96	1.02	54	117	393
Mar	2.40	1.29	114	114	521
Apr	6.32	3.08	81	116	523
May	16.72	12.81	96	132	128
Jun	**11.53**	24.03	86	124	0
Jul	**8.18**	20.59	40	130	0
Aug	**8.38**	14.92	120	135	0
Sep	8.10	10.36	97	125	0
Oct	**6.66**	9.46	76	148	0
Nov	7.60	6.06	124	128	65
Dec	4.55	3.06	119	123	211

Inflow volume 2022: 221 hm³, -22% against the mean; precipitation 1,101 mm.

Contents

Inflow	Monthly inflow 1995–2024
Precipitation	Precipitation Les Ecots
Snow	Snow water equivalent
Statistics	Statistics, FDC, forecast
Pivot	DataPilot decade × season
Reservoir	Storage and guide curves



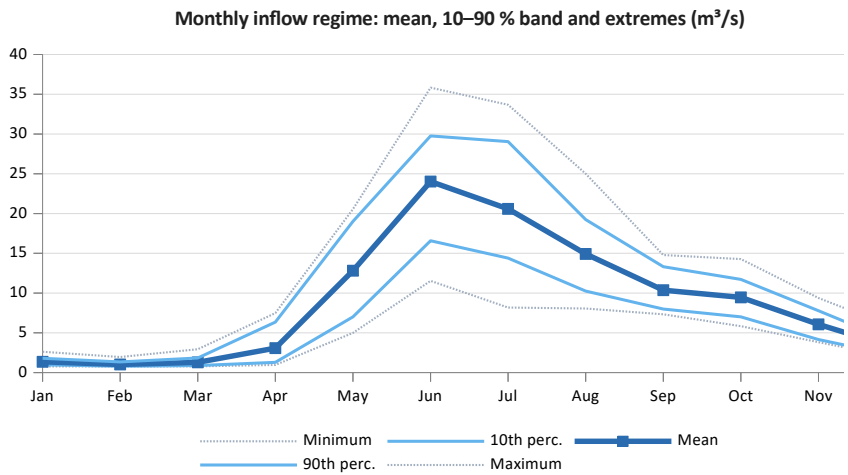
Monthly mean inflow to Lac de Sorne

Reconstructed natural inflow (m³/s) from the reservoir water balance and the gauging station Sorne–Les Ecots (SR-12); calendar years 1995–2024.

Year	Monthly values (m³/s)												Year			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean m³/s	Volume hm³	vs 1995–2024	Peak month
1995	0.78	0.81	0.79	0.96	5.55	21.97	16.29	14.07	10.17	8.67	4.59	1.89	**7.21**	228.3	-20%	Jun
1996	0.88	0.78	0.81	1.37	9.50	22.44	22.42	15.83	9.43	7.05	3.91	1.88	**8.03**	254.5	-11%	Jun
1997	0.86	0.93	0.97	1.04	5.69	20.57	33.68	25.01	14.78	7.67	4.17	2.05	**9.79**	310.8	+9%	Jul
1998	1.13	0.77	0.98	1.68	9.61	26.14	20.15	16.03	13.15	11.63	6.94	3.30	**9.29**	294.3	+3%	Jun
1999	1.31	0.91	1.15	2.53	10.50	27.94	26.65	18.11	10.96	10.36	6.72	3.16	**10.03**	317.8	+11%	Jun
2000	1.24	0.83	0.89	1.73	12.16	28.63	28.93	18.35	11.47	12.51	6.92	3.56	**10.60**	336.3	+18%	Jul
2001	1.05	0.87	0.85	1.97	16.09	30.60	26.68	19.49	14.74	9.63	5.09	2.11	**10.76**	341.2	+20%	Jun
2002	0.99	0.88	1.04	1.52	9.54	25.17	23.00	16.07	8.10	9.55	5.67	2.94	**8.71**	276.1	-3%	Jun
2003	1.35	1.03	1.78	7.13	20.18	14.75	11.93	8.06	7.33	7.78	9.38	5.57	**8.02**	254.2	-11%	May
2004	2.44	0.90	1.11	2.08	14.94	23.41	17.22	11.77	9.50	10.25	6.09	2.76	**8.54**	270.7	-5%	Jun
2005	1.08	0.89	1.04	2.43	7.15	16.78	14.83	17.76	12.96	10.68	5.55	2.83	**7.83**	248.2	-13%	Aug
2006	1.14	0.90	1.08	2.80	10.06	26.76	18.83	14.39	7.70	9.11	5.92	2.93	**8.47**	268.2	-6%	Jun
2007	1.26	0.79	0.99	1.13	4.99	25.77	20.74	14.66	8.55	9.25	5.41	2.69	**8.02**	254.0	-11%	Jun
2008	1.06	0.90	0.94	1.50	10.07	27.58	30.79	21.49	12.33	10.34	5.98	2.98	**10.50**	333.0	+17%	Jul
2009	1.10	0.80	1.13	2.51	13.82	28.87	21.35	12.91	8.02	11.04	7.08	3.65	**9.36**	296.5	+4%	Jun
2010	1.15	0.82	0.92	1.31	10.74	25.68	27.48	17.56	14.77	14.27	7.80	3.61	**10.51**	333.3	+17%	Jul
2011	1.15	1.23	1.53	3.43	12.15	25.25	19.81	13.59	9.34	8.21	5.75	2.65	**8.67**	274.7	-4%	Jun
2012	1.37	0.93	0.99	2.94	15.74	20.85	16.03	10.32	8.17	9.44	5.77	3.10	**7.97**	252.7	-11%	Jun
2013	1.21	0.89	0.96	1.87	10.94	30.96	30.06	18.26	10.37	8.53	4.87	2.48	**10.12**	320.8	+12%	Jun
2014	1.11	1.04	1.25	2.30	13.27	29.67	26.08	19.22	12.22	11.33	7.09	3.45	**10.67**	338.2	+19%	Jun
2015	1.73	1.56	2.94	5.14	20.13	19.05	16.13	9.59	8.77	9.31	6.48	3.46	**8.69**	275.5	-3%	May
2016	1.36	0.95	1.20	4.05	12.46	19.15	14.63	13.07	7.55	5.84	3.82	2.38	**7.21**	228.3	-20%	Jun
2017	1.32	0.90	1.10	3.48	11.98	25.53	19.15	15.38	12.00	10.42	5.46	2.36	**9.09**	287.9	+1%	Jun
2018	1.23	1.12	1.39	3.41	15.19	21.60	15.61	12.84	9.21	6.37	4.06	2.33	**7.86**	249.1	-13%	Jun
2019	1.55	1.32	1.57	6.55	17.31	23.89	16.86	13.01	10.44	7.92	4.41	2.66	**8.96**	283.6	-1%	Jun
2020	1.64	1.23	1.67	2.37	12.82	27.67	19.06	12.37	8.94	8.65	6.34	2.98	**8.81**	279.0	-2%	Jun
2021	1.53	1.02	1.38	5.18	20.56	23.46	17.38	12.65	8.98	8.77	5.94	3.17	**9.17**	290.6	+2%	Jun
2022	1.57	1.96	2.40	6.32	16.72	11.53	8.18	8.38	8.10	6.66	7.60	4.55	**7.00**	221.5	-22%	May
2023	2.62	1.65	2.31	7.48	18.89	13.26	12.24	10.61	10.83	9.56	9.26	4.71	**8.62**	273.0	-4%	May
2024	2.43	1.03	1.42	4.14	15.61	35.83	25.38	16.70	12.05	12.93	7.77	3.67	**11.58**	366.8	+29%	Jun
Mean	*1.35*	*1.02*	*1.29*	*3.08*	*12.81*	*24.03*	*20.59*	*14.92*	*10.36*	*9.46*	*6.06*	*3.06*	*9.00*	*285.3*		
Median	*1.24*	*0.91*	*1.11*	*2.47*	*12.31*	*25.21*	*19.48*	*14.53*	*9.84*	*9.38*	*5.93*	*2.96*	*8.76*	*277.5*		
Std dev.	*0.45*	*0.28*	*0.51*	*1.88*	*4.30*	*5.46*	*6.20*	*3.88*	*2.24*	*1.94*	*1.44*	*0.83*	*1.19*	*37.7*		
CV	*33%*	*27%*	*39%*	*61%*	*34%*	*23%*	*30%*	*26%*	*22%*	*20%*	*24%*	*27%*	*13%*	*13%*		
P10	*0.98*	*0.80*	*0.89*	*1.29*	*7.00*	*16.58*	*14.39*	*10.25*	*7.99*	*7.01*	*4.16*	*2.10*	*7.77*	*246.2*		
P90	*1.80*	*1.34*	*1.83*	*6.34*	*19.01*	*29.76*	*29.04*	*19.25*	*13.31*	*11.72*	*7.77*	*3.76*	*10.61*	*336.5*		
Min	*0.78*	*0.77*	*0.79*	*0.96*	*4.99*	*11.53*	*8.18*	*8.06*	*7.33*	*5.84*	*3.82*	*1.88*	*7.00*	*221.5*		
Max	*2.62*	*1.96*	*2.94*	*7.48*	*20.56*	*35.83*	*33.68*	*25.01*	*14.78*	*14.27*	*9.38*	*5.57*	*11.58*	*366.8*		

Flow regime 1995–2024

	Minimum	10th perc.	Mean	90th perc.	Maximum
Jan	0.78	0.98	1.35	1.80	2.62
Feb	0.77	0.80	1.02	1.34	1.96
Mar	0.79	0.89	1.29	1.83	2.94
Apr	0.96	1.29	3.08	6.34	7.48
May	4.99	7.00	12.81	19.01	20.56
Jun	11.53	16.58	24.03	29.76	35.83
Jul	8.18	14.39	20.59	29.04	33.68
Aug	8.06	10.25	14.92	19.25	25.01
Sep	7.33	7.99	10.36	13.31	14.78
Oct	5.84	7.01	9.46	11.72	14.27
Nov	3.82	4.16	6.06	7.77	9.38
Dec	1.88	2.10	3.06	3.76	5.57



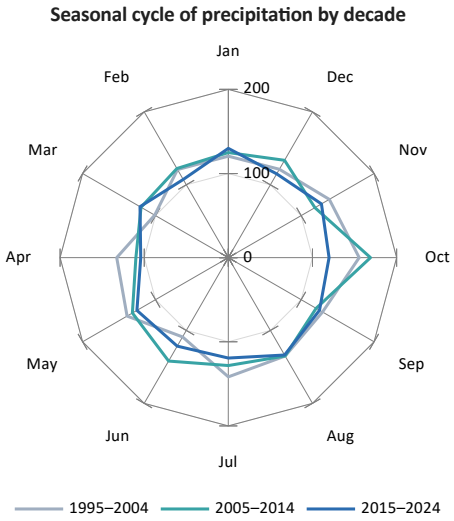
Monthly precipitation, station Les Ecots

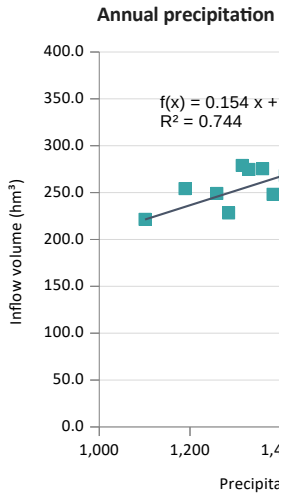
Precipitation (mm) at the climate station Les Ecots (1,480 m a.s.l., heated weighing gauge since 2009); catchment mean ≈ 1.15 × station value.

Year	Monthly values (mm)												Year			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm	vs mean	Winter half (Oct–Mar)	Wettest month
1995	139	108	123	110	113	138	96	146	146	111	127	154	**1,511**	-0%	50%	Dec
1996	101	74	120	147	105	82	141	115	108	104	**173**	144	**1,414**	-7%	51%	Nov
1997	155	118	90	160	130	144	154	172	132	81	119	94	**1,549**	+2%	42%	Aug
1998	132	108	86	146	121	114	110	179	173	155	101	81	**1,506**	-1%	44%	Aug
1999	93	**273**	120	**187**	96	103	**201**	124	128	174	**228**	155	**1,882**	+24%	55%	Feb
2000	124	119	105	87	158	165	**192**	118	121	**352**	126	142	**1,809**	+19%	54%	Oct
2001	175	79	93	127	**197**	113	144	**197**	**188**	101	129	148	**1,691**	+11%	43%	May
2002	83	131	95	122	158	98	123	120	79	168	149	119	**1,445**	-5%	52%	Oct
2003	138	63	55	85	138	41	119	83	81	133	147	106	**1,189**	-22%	54%	Nov
2004	66	136	124	156	**174**	91	137	97	137	176	87	70	**1,451**	-4%	45%	Oct
2005	68	90	67	80	110	67	147	**275**	133	139	83	124	**1,383**	-9%	41%	Aug
2006	129	125	70	148	74	154	130	139	84	153	128	76	**1,410**	-7%	48%	Jun
2007	140	110	93	19	151	167	100	103	112	153	137	171	**1,456**	-4%	55%	Dec
2008	145	100	148	109	164	**179**	169	131	117	177	133	104	**1,676**	+10%	48%	Jun
2009	**187**	133	**193**	93	115	93	105	94	99	**215**	100	**200**	**1,627**	+7%	63%	Oct
2010	84	**183**	133	**184**	136	108	93	119	**195**	**239**	93	**193**	**1,760**	+16%	53%	Oct
2011	102	119	151	21	125	121	151	119	120	126	103	72	**1,330**	-12%	51%	Mar
2012	67	135	73	140	117	149	128	92	111	163	158	154	**1,487**	-2%	50%	Oct
2013	146	105	146	174	130	**205**	132	93	103	148	147	90	**1,619**	+7%	48%	Jun
2014	**181**	123	124	131	**195**	177	128	**185**	131	177	106	152	**1,810**	+19%	48%	May
2015	83	132	80	78	131	144	163	68	117	167	121	76	**1,360**	-10%	48%	Oct
2016	89	88	104	146	121	67	119	165	57	78	96	155	**1,285**	-15%	47%	Aug
2017	121	128	111	77	105	147	127	168	168	131	137	84	**1,504**	-1%	47%	Aug
2018	**203**	49	103	49	144	101	88	140	117	59	99	107	**1,259**	-17%	49%	Jan
2019	141	128	143	139	142	126	99	146	145	83	**183**	**173**	**1,648**	+9%	52%	Nov
2020	115	91	112	30	144	135	109	110	127	129	100	113	**1,315**	-13%	50%	May
2021	167	105	**170**	155	138	87	129	154	94	142	117	75	**1,533**	+1%	51%	Mar
2022	94	54	114	81	96	86	40	120	97	76	124	119	**1,101**	-27%	53%	Nov
2023	141	127	122	101	69	79	131	147	143	126	147	125	**1,458**	-4%	54%	Aug
2024	145	**171**	**153**	**185**	165	**243**	**189**	119	**186**	206	154	123	**2,039**	+34%	47%	Jun
Mean	*125*	*117*	*114*	*116*	*132*	*124*	*130*	*135*	*125*	*148*	*128*	*123*	*1,517*			
Median	*131*	*119*	*113*	*125*	*131*	*118*	*129*	*122*	*121*	*145*	*127*	*121*	*1,496*			
P10	*82*	*73*	*73*	*47*	*96*	*78*	*96*	*93*	*84*	*81*	*96*	*76*	*1,282*			
P90	*176*	*140*	*151*	*175*	*166*	*177*	*171*	*180*	*174*	*207*	*160*	*171*	*1,809*			
Min	*66*	*49*	*55*	*19*	*69*	*41*	*40*	*68*	*57*	*59*	*83*	*70*	*1,101*			
Max	*203*	*273*	*193*	*187*	*197*	*243*	*201*	*275*	*195*	*352*	*228*	*200*	*2,039*			

Mean monthly precipitation by decade (mm)

Month	1995–2004	2005–2014	2015–2024
Jan	121	125	130
Feb	121	122	107
Mar	101	120	121
Apr	133	110	104
May	139	132	126
Jun	109	142	122
Jul	142	128	119
Aug	135	135	134
Sep	129	121	125
Oct	156	169	120
Nov	139	119	128
Dec	121	134	115





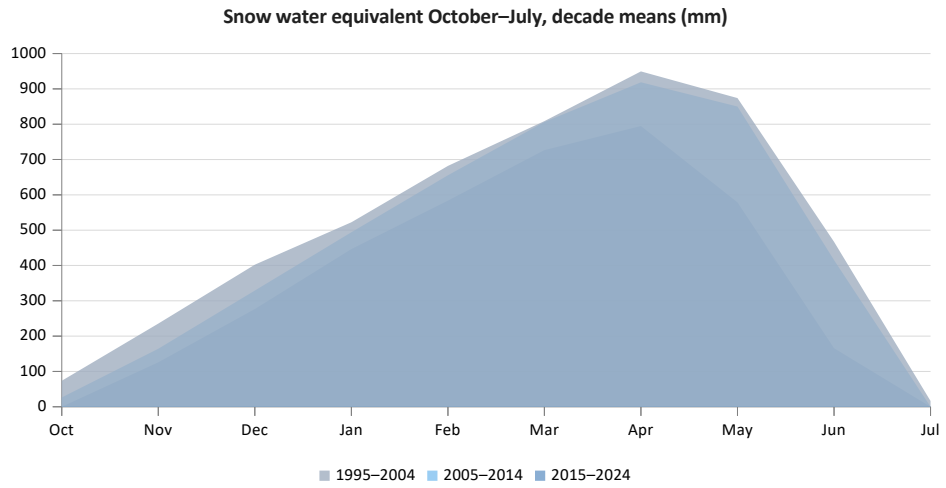
Snow water equivalent, station Col de Sorne

Month-end snow water equivalent (mm) at the snow station Col de Sorne (2,450 m a.s.l., snow pillow and monthly manual cores).

Year	Monthly values (mm)												Season indicators			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1 April	Maximum	Peak month	Snow-free from
1995	187	330	492	622	656	295	–	–	–	66	227	433	**492**	656	May	Jul
1996	568	666	824	996	907	535	–	–	–	–	225	417	**824**	996	Apr	Jul
1997	625	779	892	1,090	1,153	837	163	–	–	–	139	262	**892**	1,153	May	Aug
1998	438	581	688	856	806	397	–	–	–	81	185	289	**688**	856	Apr	Jul
1999	412	776	926	1,142	1,039	565	–	–	–	94	377	581	**926**	1,142	Apr	Jul
2000	746	904	1,037	1,122	1,039	654	–	–	–	333	491	677	**1,037**	1,122	Apr	Jul
2001	910	1,014	1,132	1,268	1,154	668	–	–	–	–	160	355	**1,132**	1,268	Apr	Jul
2002	465	638	756	895	883	466	–	–	–	88	265	423	**756**	895	Apr	Jul
2003	602	682	734	723	438	–	–	–	–	–	50	183	**734**	734	Mar	Jun
2004	270	450	605	780	664	251	–	–	–	2	106	197	**605**	780	Apr	Jul
2005	284	402	483	552	562	148	–	–	–	26	114	277	**483**	562	May	Jul
2006	449	614	697	856	745	363	–	–	–	–	144	242	**697**	856	Apr	Jul
2007	427	574	689	696	804	408	–	–	–	38	206	434	**689**	804	May	Jul
2008	627	758	950	1,070	1,073	700	–	–	–	31	191	327	**950**	1,073	May	Jul
2009	577	754	1,002	1,087	927	451	–	–	–	18	133	398	**1,002**	1,087	Apr	Jul
2010	509	754	924	1,150	1,084	688	–	–	–	147	260	515	**924**	1,150	Apr	Jul
2011	649	800	987	959	860	225	–	–	–	–	110	203	**987**	987	Mar	Jul
2012	289	468	557	702	469	–	–	–	–	–	194	393	**557**	702	Apr	Jun
2013	588	727	915	1,115	1,027	620	–	–	–	–	184	303	**915**	1,115	Apr	Jul
2014	542	703	857	998	949	549	–	–	–	–	112	312	**857**	998	Apr	Jul
2015	414	581	651	694	366	–	–	–	–	–	131	225	**651**	694	Apr	Jun
2016	343	458	584	730	629	186	–	–	–	–	100	302	**584**	730	Apr	Jul
2017	463	632	770	824	710	314	–	–	–	–	173	280	**770**	824	Apr	Jul
2018	549	609	734	747	604	95	–	–	–	–	105	238	**734**	747	Apr	Jul
2019	423	588	763	840	628	36	–	–	–	–	224	444	**763**	840	Apr	Jul
2020	593	711	840	844	739	273	–	–	–	–	97	247	**840**	844	Apr	Jul
2021	467	604	818	956	644	246	–	–	–	–	125	220	**818**	956	Apr	Jul
2022	339	393	521	523	128	–	–	–	–	–	65	211	**521**	523	Apr	Jun
2023	394	555	690	691	348	–	–	–	–	–	126	288	**690**	691	Apr	Jun
2024	479	706	896	1,098	990	507	–	–	–	–	184	344	**896**	1,098	Apr	Jul
Mean	*488*	*640*	*780*	*888*	*768*	*349*	*5*	*–*	*–*	*31*	*173*	*334*	*780*	*896*		
Median	*466*	*635*	*767*	*856*	*775*	*339*	*–*	*–*	*–*	*–*	*152*	*303*	*767*	*856*		
P10	*289*	*445*	*553*	*684*	*431*	*–*	*–*	*–*	*–*	*–*	*100*	*210*	*553*	*688*		
P90	*629*	*781*	*989*	*1124*	*1074*	*670*	*–*	*–*	*–*	*89*	*261*	*451*	*989*	*1143*		
Min	*187*	*330*	*483*	*523*	*128*	*–*	*–*	*–*	*–*	*–*	*50*	*183*	*483*	*523*		
Max	*910*	*1014*	*1132*	*1268*	*1154*	*837*	*163*	*–*	*–*	*333*	*491*	*677*	*1132*	*1268*		

Mean snowpack through the season, by decade (mm, month end)

Month	1995–2004	2005–2014	2015–2024
Oct	74	26	0
Nov	235	164	126
Dec	402	329	277
Jan	522	494	446
Feb	682	655	584
Mar	809	806	727
Apr	949	919	795
May	874	850	579
Jun	467	415	166
Jul	16	0	0



Statistics of the inflow series

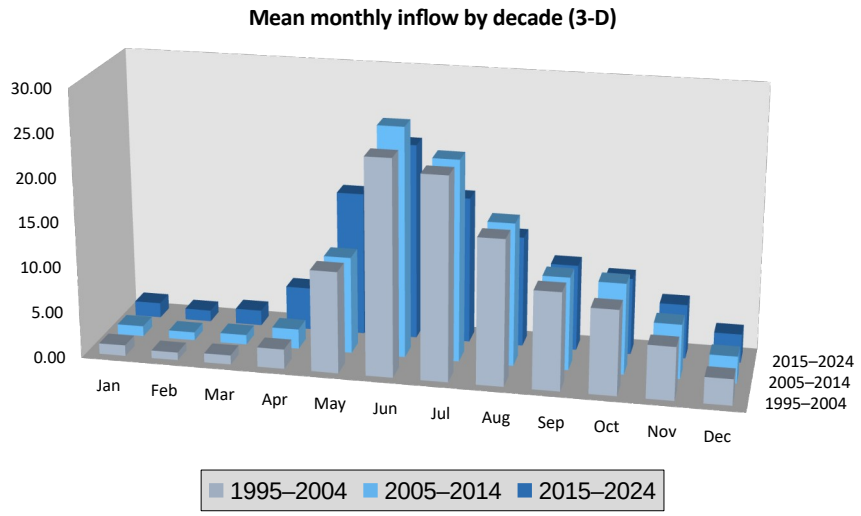
Monthly statistics, change between decades, flow-duration curve and the snowmelt regression used for the seasonal forecast.

A. Monthly statistics 1995–2024 (m³/s)

Month	Mean	Median	Std dev.	CV	P10	P90	Minimum	Year	Maximum	Year
Jan	1.35	1.24	0.45	33%	0.98	1.80	0.78	1995	2.62	2023
Feb	1.02	0.91	0.28	27%	0.80	1.34	0.77	1998	1.96	2022
Mar	1.29	1.11	0.51	39%	0.89	1.83	0.79	1995	2.94	2015
Apr	3.08	2.47	1.88	61%	1.29	6.34	0.96	1995	7.48	2023
May	12.81	12.31	4.30	34%	7.00	19.01	4.99	2007	20.56	2021
Jun	24.03	25.21	5.46	23%	16.58	29.76	11.53	2022	35.83	2024
Jul	20.59	19.48	6.20	30%	14.39	29.04	8.18	2022	33.68	1997
Aug	14.92	14.53	3.88	26%	10.25	19.25	8.06	2003	25.01	1997
Sep	10.36	9.84	2.24	22%	7.99	13.31	7.33	2003	14.78	1997
Oct	9.46	9.38	1.94	20%	7.01	11.72	5.84	2016	14.27	2010
Nov	6.06	5.93	1.44	24%	4.16	7.77	3.82	2016	9.38	2003
Dec	3.06	2.96	0.83	27%	2.10	3.76	1.88	1996	5.57	2003
Year	**9.00**	**8.76**	**1.19**	**13%**	**7.77**	**10.61**	**7.00**	**2022**	**11.58**	**2024**

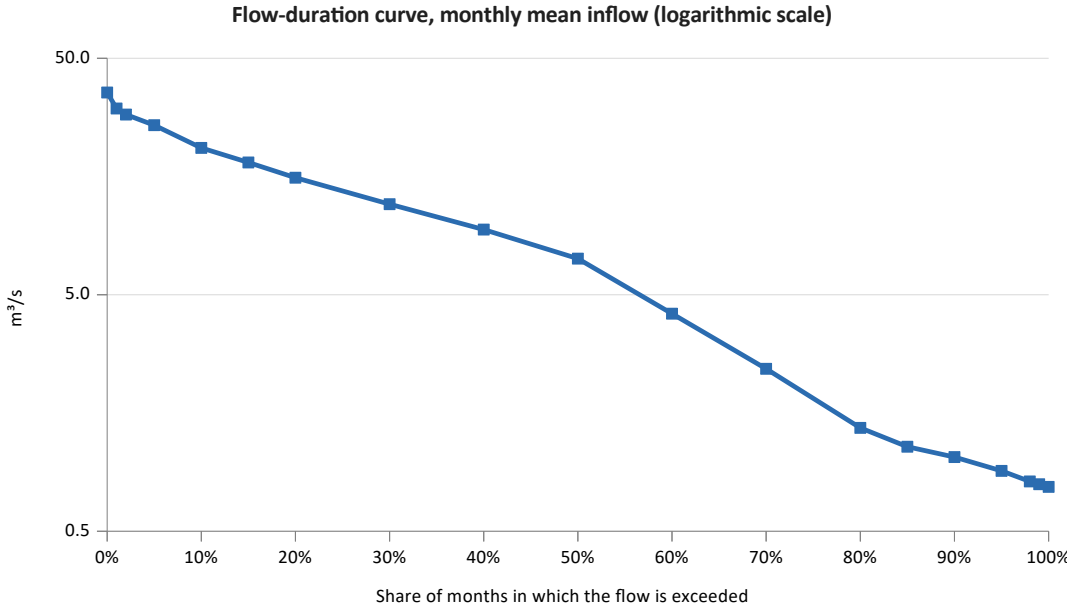
B. Mean monthly inflow by decade (m³/s)

Month	1995–2004	2005–2014	2015–2024	Change 3rd vs 1st
Jan	1.20	1.16	1.70	+41%
Feb	0.87	0.92	1.27	+46%
Mar	1.04	1.08	1.74	+68%
Apr	2.20	2.22	4.81	+119%
May	11.38	10.89	16.17	+42%
Jun	24.16	25.82	22.10	-9%
Jul	22.70	22.60	16.46	-27%
Aug	16.28	16.02	12.46	-23%
Sep	10.96	10.44	9.69	-12%
Oct	9.51	10.22	8.64	-9%
Nov	5.95	6.12	6.11	+3%
Dec	2.92	3.04	3.23	+10%
Year	**9.10**	**9.21**	**8.70**	**-4%**



C. Flow-duration curve of the monthly means 1995–2024

Exceedance	Inflow m³/s	Note
0%	35.83	*maximum*
1%	30.68	
2%	28.92	
5%	26.08	
10%	20.90	*Q10 (high flow)*
15%	18.13	
20%	15.64	
30%	12.08	
40%	9.43	
50%	7.11	*median*
60%	4.16	
70%	2.43	
80%	1.37	
85%	1.14	
90%	1.03	*Q90 (low flow)*
95%	0.90	*Q95 (≈ Q347 of month*
98%	0.81	
99%	0.79	
100%	0.77	*minimum*



Probability 75% **→ 1.73 m³/s**

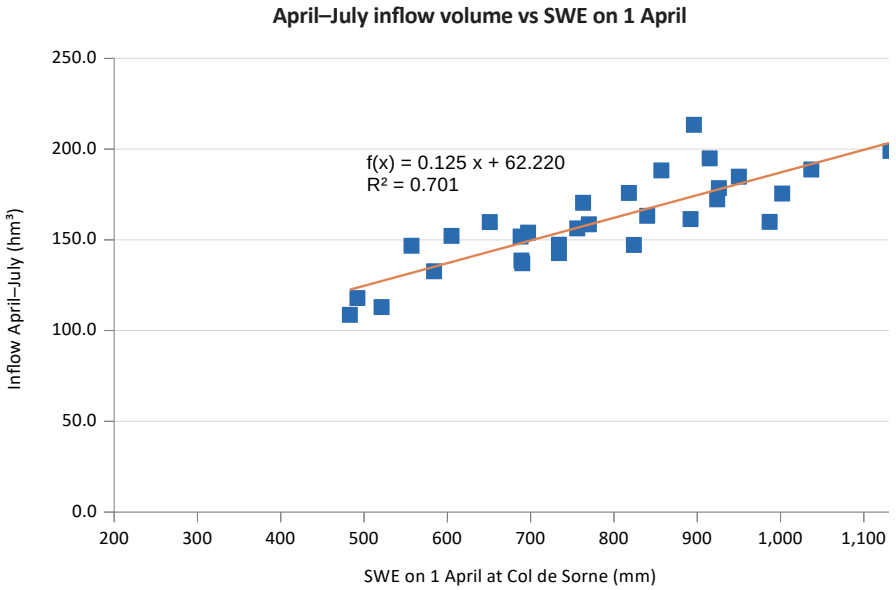
D. Seasonal forecast: April–July inflow volume vs snow water equivalent on 1 April

Year	SWE 1 April mm	Apr–Jul volume hm³	Fitted hm³	Residual
1995	492	117.9	123.7	-5.7
1996	824	147.2	165.1	-17.9
1997	892	161.5	173.6	-12.2
1998	688	151.8	148.2	+3.7
1999	926	178.5	177.9	+0.6
2000	1,037	188.7	191.7	-3.0
2001	1,132	199.0	203.6	-4.6
2002	756	156.3	156.6	-0.3
2003	734	142.7	153.9	-11.2
2004	605	152.2	137.8	+14.4
2005	483	108.7	122.5	-13.9
2006	697	154.0	149.3	+4.7
2007	689	138.6	148.3	-9.6
2008	950	184.8	180.9	+3.9
2009	1,002	175.5	187.4	-11.8
2010	924	172.3	177.6	-5.3
2011	987	159.9	185.5	-25.6
2012	557	146.8	131.8	+15.0
2013	915	194.9	176.5	+18.4
2014	857	188.3	169.3	+19.0
2015	651	159.8	143.5	+16.3
2016	584	132.7	135.2	-2.5
2017	770	158.6	158.4	+0.2
2018	734	147.3	153.9	-6.6
2019	763	170.4	157.5	+12.9
2020	840	163.3	167.1	-3.9
2021	818	175.9	164.4	+11.5
2022	521	113.0	127.3	-14.3
2023	690	137.1	148.4	-11.3
2024	896	213.4	174.1	+39.3

Slope hm³/mm	Intercept hm³	R^2	Std error hm³
0.125	**62.2**	**0.701**	**14.0**

Forecast 2025, SWE 1 April: 642 mm

Apr–Jul 2025: 142 hm³ (80 % interval 124–161 hm³)



Inflow and precipitation by decade and season

DataPilot tables on the hidden sheet Data; winter DJF, spring MAM, summer JJA, autumn SON.

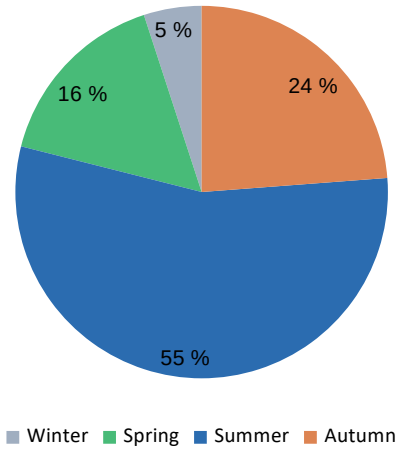
Mean inflow (m³/s) by decade and season

Inflow m³/s	Season				
Decade	Autumn	Spring	Summer	Winter	**Total Result**
1995–2004	8,81	4,87	21,05	1,67	**9,10**
2005–2014	8,93	4,73	21,48	1,71	**9,21**
2015–2024	8,15	7,57	17,01	2,07	**8,70**
Total Result	**8,63**	**5,73**	**19,84**	**1,81**	**9,00**

Share of the annual inflow volume

Season	1995–2004	2015–2024	1995–2024
Winter	4.6%	5.9%	5.0%
Spring	13.5%	21.9%	16.0%
Summer	57.9%	48.9%	55.2%
Autumn	24.0%	23.3%	23.8%

Seasonal share of inflow 1995–2024



Mean monthly precipitation (mm) by season and decade

Month name - all -

Precipitation mm	Decade			
Season	1995–2004	2005–2014	2015–2024	**Total Result**
Autumn	141	136	124	**134**
Spring	124	120	117	**121**
Summer	129	135	125	**130**
Winter	121	127	117	**122**
Total Result	**129**	**130**	**121**	**126**

Spring inflow rose from 14% to 22% of the annual volume, summer inflow fell from 58% to 49%: snowmelt now starts about three weeks earlier.

Lac de Sorne – storage characteristics and operation

Bathymetric survey 2021; guide curves of the operating regulation of 12.12.2019.

A. Level–volume–area

Level m a.s.l.	Usable volume hm³	Total volume hm³	Area km²
1962.0	0.0	6.2	0.38
1966.0	0.8	7.0	0.34
1970.0	2.6	8.8	0.52
1974.0	4.9	11.1	0.67
1978.0	7.9	14.1	0.80
1982.0	11.3	17.5	0.92
1986.0	15.2	21.4	1.03
1990.0	19.5	25.7	1.13
1994.0	24.2	30.4	1.23
1998.0	29.3	35.5	1.32
2002.0	34.8	41.0	1.41
2006.0	40.6	46.8	1.49
2010.0	46.7	52.9	1.58
2014.0	53.2	59.4	1.66
2018.0	60.0	66.2	1.74
2022.0	67.1	73.3	1.81
2026.0	74.5	80.7	1.89
2030.0	82.2	88.4	1.96
2034.0	90.1	96.3	2.03
2038.0	98.4	104.6	2.10

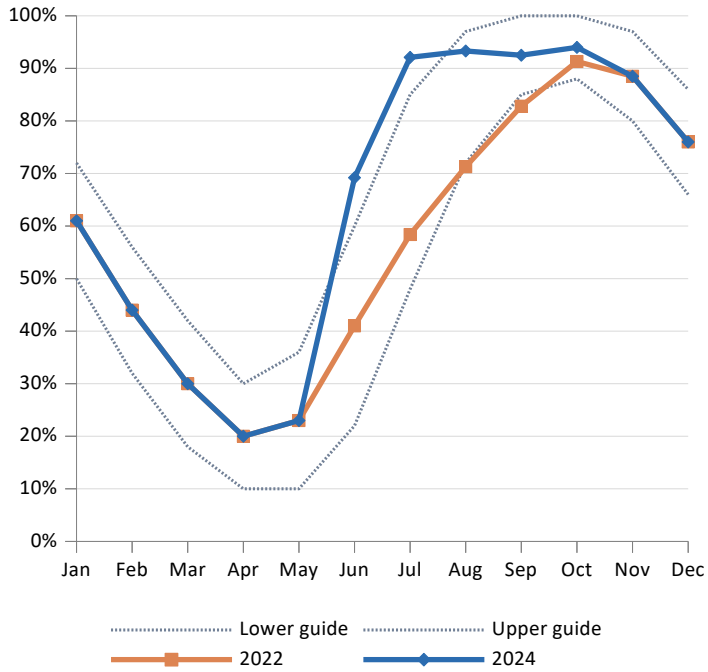
Constants

Full supply level	2038.0
Minimum operating level	1962.0
Usable volume at FSL hm³	98.4
Dead storage hm³	6.2
Shape exponent	1.62

B. Guide curves and storage (% of usable volume,

Month	Lower guide	Upper guide	2022	2024
Jan	50%	72%	61%	61%
Feb	32%	56%	44%	44%
Mar	18%	42%	30%	30%
Apr	10%	30%	20%	20%
May	10%	36%	23%	23%
Jun	22%	60%	41%	69%
Jul	48%	85%	58%	92%
Aug	72%	97%	**71%**	93%
Sep	85%	100%	**83%**	93%
Oct	88%	100%	91%	94%
Nov	80%	97%	89%	89%
Dec	66%	86%	76%	76%

Storage of Lac de Sorne against the guide curves



Level–volume curve

