HYDRO VAL-SORNE

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,

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

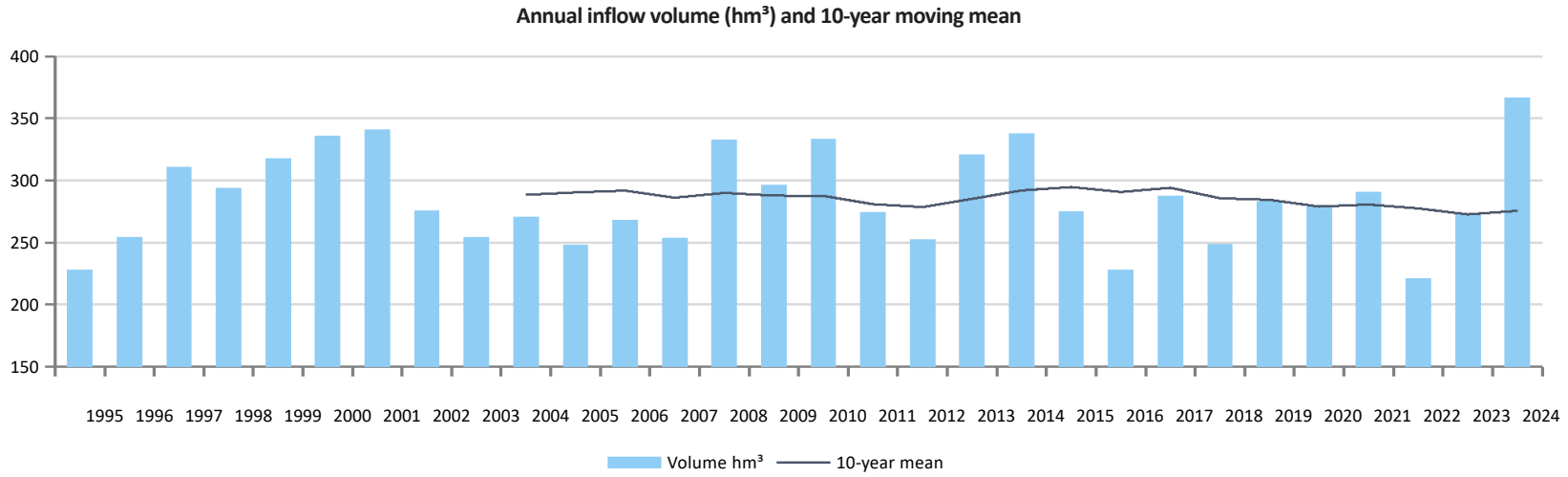
Catchment and installations

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

Last data transfer 03.02.2025 06:15



Year at a glance

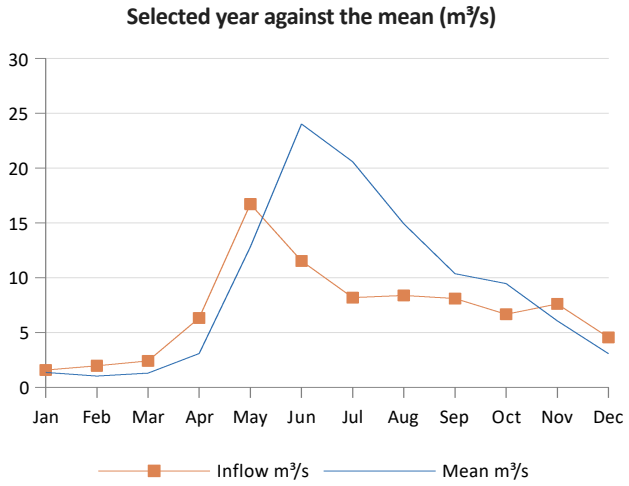
Year 2022

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

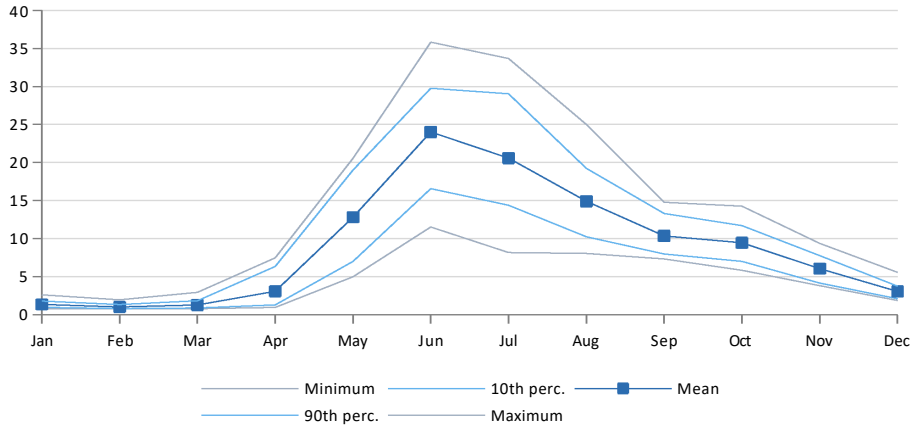


Monthly mean inflow to Lac de Sorne

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–	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*		

Monthly inflow regime: mean, 10–90 % band and extremes (m³/s)



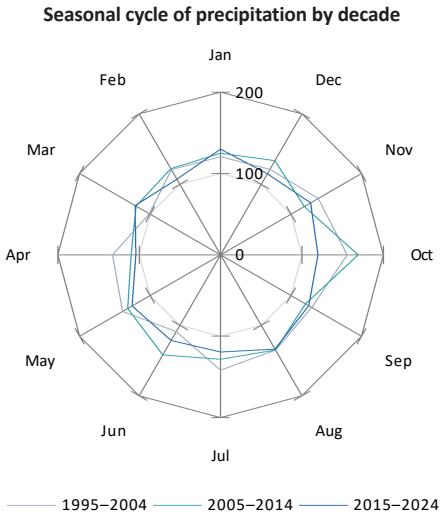
Monthly precipitation, station Les Ecots

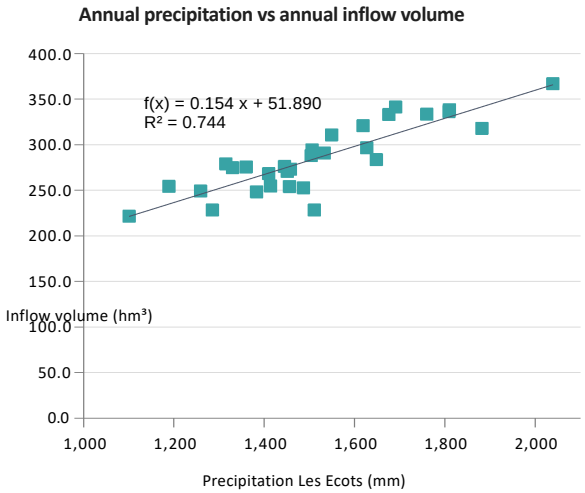
Precipitation (mm) at the climate station Les Ecots (1,480 m a.s.l., heated weighing gauge since 2009); catchment mean ≈ 1.15 × station value.

Year	Monthly values (mm)												Year			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total mm	vs mean	Winter half	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–	2005–	2015–
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





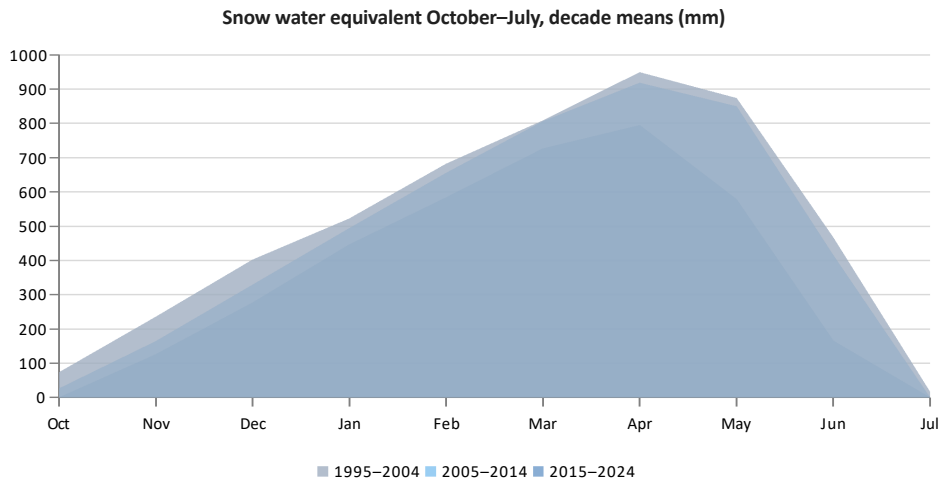
Snow water equivalent, station Col de Sorne

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–	2005–	2015–
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

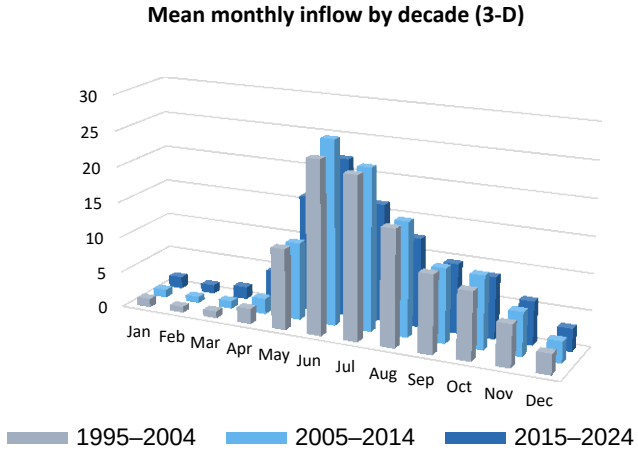
Monthly statistics, change between decades, flow-duration curve and the snowmelt regression used for the seasonal forecast.

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)

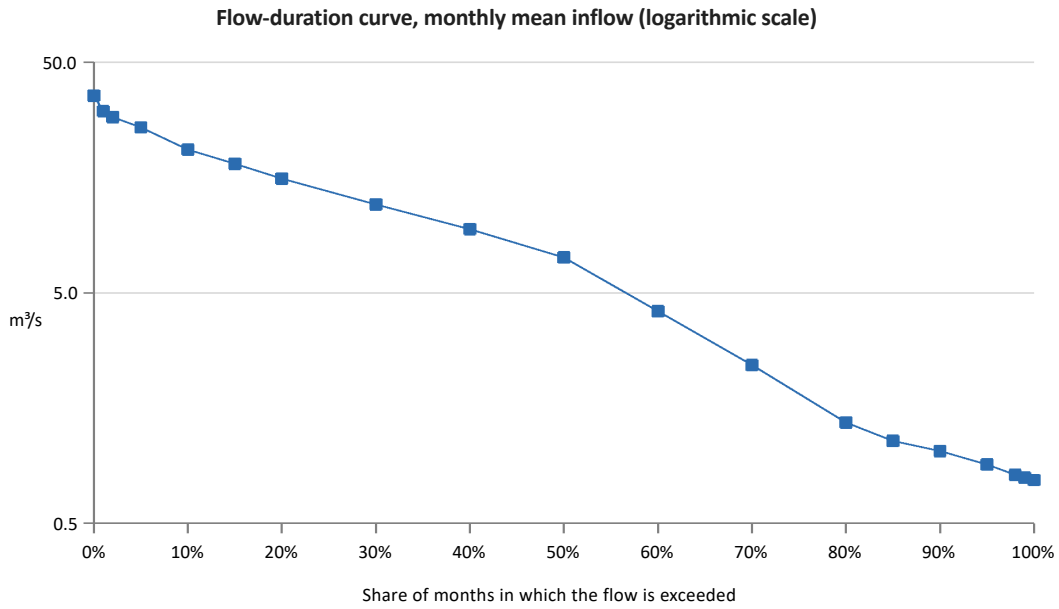
Month	1995–2004	2005–2014	2015–2024	Change 3rd vs 1st
Jan	1.20	1.16	1.70	+41%
Feb	0.87	0.92	1.27	+46%
Mar	1.04	1.08	1.74	+68%
Apr	2.20	2.22	4.81	+119%
May	11.38	10.89	16.17	+42%
Jun	24.16	25.82	22.10	-9%
Jul	22.70	22.60	16.46	-27%
Aug	16.28	16.02	12.46	-23%
Sep	10.96	10.44	9.69	-12%
Oct	9.51	10.22	8.64	-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 monthly means)*
98%	0.81	
99%	0.79	
100%	0.77	*minimum*

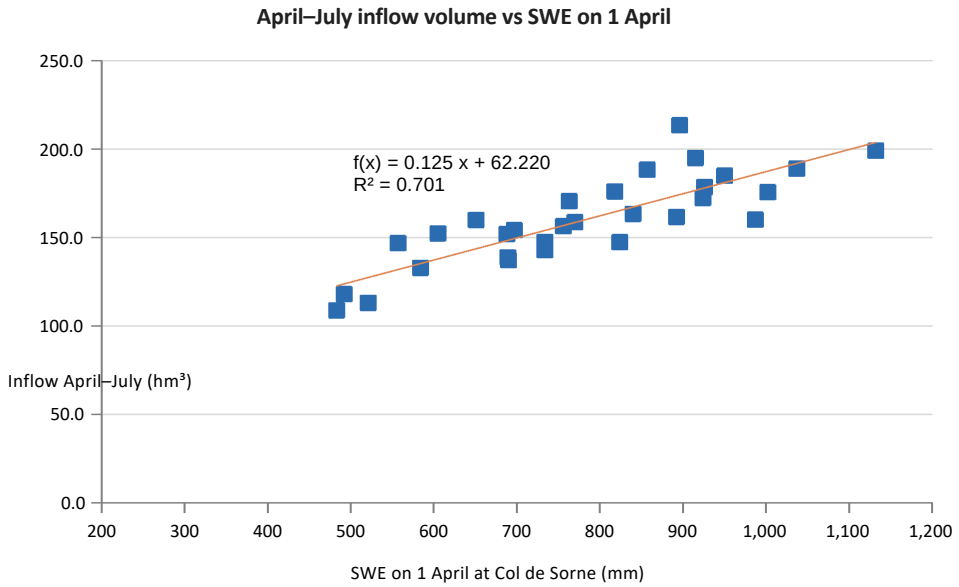
Probability 75% → **1.73 m³/s**



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**



Inflow and precipitation by decade and season

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

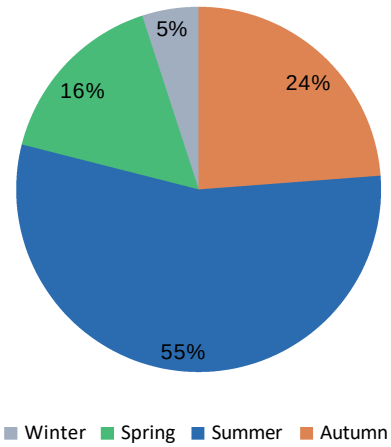
Mean inflow (m³/s) by decade and season

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

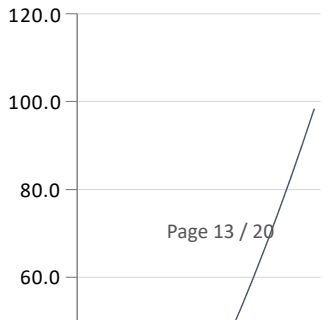
B. Guide curves and storage (% of usable volume, end of month)

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



Year	Month	Month name	Decade	Season	Inflow m³/s	Precipitation mm	SWE mm	Days	Volume hm³
1995	1	Jan	1995–2004	Winter	0.78	139	187	31	2.09
1995	2	Feb	1995–2004	Winter	0.81	108	330	28	1.96
1995	3	Mar	1995–2004	Spring	0.79	123	492	31	2.12
1995	4	Apr	1995–2004	Spring	0.96	110	622	30	2.49
1995	5	May	1995–2004	Spring	5.55	113	656	31	14.87
1995	6	Jun	1995–2004	Summer	21.97	138	295	30	56.95
1995	7	Jul	1995–2004	Summer	16.29	96	0	31	43.63
1995	8	Aug	1995–2004	Summer	14.07	146	0	31	37.69
1995	9	Sep	1995–2004	Autumn	10.17	146	0	30	26.36
1995	10	Oct	1995–2004	Autumn	8.67	111	66	31	23.22
1995	11	Nov	1995–2004	Autumn	4.59	127	227	30	11.90
1995	12	Dec	1995–2004	Winter	1.89	154	433	31	5.06
1996	1	Jan	1995–2004	Winter	0.88	101	568	31	2.36
1996	2	Feb	1995–2004	Winter	0.78	74	666	29	1.95
1996	3	Mar	1995–2004	Spring	0.81	120	824	31	2.17
1996	4	Apr	1995–2004	Spring	1.37	147	996	30	3.55
1996	5	May	1995–2004	Spring	9.50	105	907	31	25.44
1996	6	Jun	1995–2004	Summer	22.44	82	535	30	58.16
1996	7	Jul	1995–2004	Summer	22.42	141	0	31	60.05
1996	8	Aug	1995–2004	Summer	15.83	115	0	31	42.40
1996	9	Sep	1995–2004	Autumn	9.43	108	0	30	24.44
1996	10	Oct	1995–2004	Autumn	7.05	104	0	31	18.88
1996	11	Nov	1995–2004	Autumn	3.91	173	225	30	10.13
1996	12	Dec	1995–2004	Winter	1.88	144	417	31	5.04
1997	1	Jan	1995–2004	Winter	0.86	155	625	31	2.30
1997	2	Feb	1995–2004	Winter	0.93	118	779	28	2.25
1997	3	Mar	1995–2004	Spring	0.97	90	892	31	2.60
1997	4	Apr	1995–2004	Spring	1.04	160	1,090	30	2.70
1997	5	May	1995–2004	Spring	5.69	130	1,153	31	15.24
1997	6	Jun	1995–2004	Summer	20.57	144	837	30	53.32
1997	7	Jul	1995–2004	Summer	33.68	154	163	31	90.21
1997	8	Aug	1995–2004	Summer	25.01	172	0	31	66.99
1997	9	Sep	1995–2004	Autumn	14.78	132	0	30	38.31
1997	10	Oct	1995–2004	Autumn	7.67	81	0	31	20.54
1997	11	Nov	1995–2004	Autumn	4.17	119	139	30	10.81
1997	12	Dec	1995–2004	Winter	2.05	94	262	31	5.49
1998	1	Jan	1995–2004	Winter	1.13	132	438	31	3.03
1998	2	Feb	1995–2004	Winter	0.77	108	581	28	1.86
1998	3	Mar	1995–2004	Spring	0.98	86	688	31	2.62
1998	4	Apr	1995–2004	Spring	1.68	146	856	30	4.35
1998	5	May	1995–2004	Spring	9.61	121	806	31	25.74
1998	6	Jun	1995–2004	Summer	26.14	114	397	30	67.75
1998	7	Jul	1995–2004	Summer	20.15	110	0	31	53.97
1998	8	Aug	1995–2004	Summer	16.03	179	0	31	42.93
1998	9	Sep	1995–2004	Autumn	13.15	173	0	30	34.08
1998	10	Oct	1995–2004	Autumn	11.63	155	81	31	31.15
1998	11	Nov	1995–2004	Autumn	6.94	101	185	30	17.99
1998	12	Dec	1995–2004	Winter	3.30	81	289	31	8.84
1999	1	Jan	1995–2004	Winter	1.31	93	412	31	3.51
1999	2	Feb	1995–2004	Winter	0.91	273	776	28	2.20
1999	3	Mar	1995–2004	Spring	1.15	120	926	31	3.08
1999	4	Apr	1995–2004	Spring	2.53	187	1,142	30	6.56
1999	5	May	1995–2004	Spring	10.50	96	1,039	31	28.12
1999	6	Jun	1995–2004	Summer	27.94	103	565	30	72.42
1999	7	Jul	1995–2004	Summer	26.65	201	0	31	71.38

Decades	Seasons
1995–2004	Winter
2005–2014	Spring
2015–2024	Summer
	Autumn

1999	8 Aug	1995–2004Summer	18.11	124	0	31	48.51
1999	9 Sep	1995–2004Autumn	10.96	128	0	30	28.41
1999	10 Oct	1995–2004Autumn	10.36	174	94	31	27.75
1999	11 Nov	1995–2004Autumn	6.72	228	377	30	17.42
1999	12 Dec	1995–2004Winter	3.16	155	581	31	8.46
2000	1 Jan	1995–2004Winter	1.24	124	746	31	3.32
2000	2 Feb	1995–2004Winter	0.83	119	904	29	2.08
2000	3 Mar	1995–2004Spring	0.89	105	1,037	31	2.38
2000	4 Apr	1995–2004Spring	1.73	87	1,122	30	4.48
2000	5 May	1995–2004Spring	12.16	158	1,039	31	32.57
2000	6 Jun	1995–2004Summer	28.63	165	654	30	74.21
2000	7 Jul	1995–2004Summer	28.93	192	0	31	77.49
2000	8 Aug	1995–2004Summer	18.35	118	0	31	49.15
2000	9 Sep	1995–2004Autumn	11.47	121	0	30	29.73
2000	10 Oct	1995–2004Autumn	12.51	352	333	31	33.51
2000	11 Nov	1995–2004Autumn	6.92	126	491	30	17.94
2000	12 Dec	1995–2004Winter	3.56	142	677	31	9.54
2001	1 Jan	1995–2004Winter	1.05	175	910	31	2.81
2001	2 Feb	1995–2004Winter	0.87	79	1,014	28	2.10
2001	3 Mar	1995–2004Spring	0.85	93	1,132	31	2.28
2001	4 Apr	1995–2004Spring	1.97	127	1,268	30	5.11
2001	5 May	1995–2004Spring	16.09	197	1,154	31	43.10
2001	6 Jun	1995–2004Summer	30.60	113	668	30	79.32
2001	7 Jul	1995–2004Summer	26.68	144	0	31	71.46
2001	8 Aug	1995–2004Summer	19.49	197	0	31	52.20
2001	9 Sep	1995–2004Autumn	14.74	188	0	30	38.21
2001	10 Oct	1995–2004Autumn	9.63	101	0	31	25.79
2001	11 Nov	1995–2004Autumn	5.09	129	160	30	13.19
2001	12 Dec	1995–2004Winter	2.11	148	355	31	5.65
2002	1 Jan	1995–2004Winter	0.99	83	465	31	2.65
2002	2 Feb	1995–2004Winter	0.88	131	638	28	2.13
2002	3 Mar	1995–2004Spring	1.04	95	756	31	2.79
2002	4 Apr	1995–2004Spring	1.52	122	895	30	3.94
2002	5 May	1995–2004Spring	9.54	158	883	31	25.55
2002	6 Jun	1995–2004Summer	25.17	98	466	30	65.24
2002	7 Jul	1995–2004Summer	23.00	123	0	31	61.60
2002	8 Aug	1995–2004Summer	16.07	120	0	31	43.04
2002	9 Sep	1995–2004Autumn	8.10	79	0	30	21.00
2002	10 Oct	1995–2004Autumn	9.55	168	88	31	25.58
2002	11 Nov	1995–2004Autumn	5.67	149	265	30	14.70
2002	12 Dec	1995–2004Winter	2.94	119	423	31	7.87
2003	1 Jan	1995–2004Winter	1.35	138	602	31	3.62
2003	2 Feb	1995–2004Winter	1.03	63	682	28	2.49
2003	3 Mar	1995–2004Spring	1.78	55	734	31	4.77
2003	4 Apr	1995–2004Spring	7.13	85	723	30	18.48
2003	5 May	1995–2004Spring	20.18	138	438	31	54.05
2003	6 Jun	1995–2004Summer	14.75	41	0	30	38.23
2003	7 Jul	1995–2004Summer	11.93	119	0	31	31.95
2003	8 Aug	1995–2004Summer	8.06	83	0	31	21.59
2003	9 Sep	1995–2004Autumn	7.33	81	0	30	19.00
2003	10 Oct	1995–2004Autumn	7.78	133	0	31	20.84
2003	11 Nov	1995–2004Autumn	9.38	147	50	30	24.31
2003	12 Dec	1995–2004Winter	5.57	106	183	31	14.92
2004	1 Jan	1995–2004Winter	2.44	66	270	31	6.54
2004	2 Feb	1995–2004Winter	0.90	136	450	29	2.26
2004	3 Mar	1995–2004Spring	1.11	124	605	31	2.97
2004	4 Apr	1995–2004Spring	2.08	156	780	30	5.39

2004	5 May	1995–2004	Spring	14.94	174	664	31	40.02
2004	6 Jun	1995–2004	Summer	23.41	91	251	30	60.68
2004	7 Jul	1995–2004	Summer	17.22	137	0	31	46.12
2004	8 Aug	1995–2004	Summer	11.77	97	0	31	31.52
2004	9 Sep	1995–2004	Autumn	9.50	137	0	30	24.62
2004	10 Oct	1995–2004	Autumn	10.25	176	2	31	27.45
2004	11 Nov	1995–2004	Autumn	6.09	87	106	30	15.79
2004	12 Dec	1995–2004	Winter	2.76	70	197	31	7.39
2005	1 Jan	2005–2014	Winter	1.08	68	284	31	2.89
2005	2 Feb	2005–2014	Winter	0.89	90	402	28	2.15
2005	3 Mar	2005–2014	Spring	1.04	67	483	31	2.79
2005	4 Apr	2005–2014	Spring	2.43	80	552	30	6.30
2005	5 May	2005–2014	Spring	7.15	110	562	31	19.15
2005	6 Jun	2005–2014	Summer	16.78	67	148	30	43.49
2005	7 Jul	2005–2014	Summer	14.83	147	0	31	39.72
2005	8 Aug	2005–2014	Summer	17.76	275	0	31	47.57
2005	9 Sep	2005–2014	Autumn	12.96	133	0	30	33.59
2005	10 Oct	2005–2014	Autumn	10.68	139	26	31	28.61
2005	11 Nov	2005–2014	Autumn	5.55	83	114	30	14.39
2005	12 Dec	2005–2014	Winter	2.83	124	277	31	7.58
2006	1 Jan	2005–2014	Winter	1.14	129	449	31	3.05
2006	2 Feb	2005–2014	Winter	0.90	125	614	28	2.18
2006	3 Mar	2005–2014	Spring	1.08	70	697	31	2.89
2006	4 Apr	2005–2014	Spring	2.80	148	856	30	7.26
2006	5 May	2005–2014	Spring	10.06	74	745	31	26.94
2006	6 Jun	2005–2014	Summer	26.76	154	363	30	69.36
2006	7 Jul	2005–2014	Summer	18.83	130	0	31	50.43
2006	8 Aug	2005–2014	Summer	14.39	139	0	31	38.54
2006	9 Sep	2005–2014	Autumn	7.70	84	0	30	19.96
2006	10 Oct	2005–2014	Autumn	9.11	153	0	31	24.40
2006	11 Nov	2005–2014	Autumn	5.92	128	144	30	15.34
2006	12 Dec	2005–2014	Winter	2.93	76	242	31	7.85
2007	1 Jan	2005–2014	Winter	1.26	140	427	31	3.37
2007	2 Feb	2005–2014	Winter	0.79	110	574	28	1.91
2007	3 Mar	2005–2014	Spring	0.99	93	689	31	2.65
2007	4 Apr	2005–2014	Spring	1.13	19	696	30	2.93
2007	5 May	2005–2014	Spring	4.99	151	804	31	13.37
2007	6 Jun	2005–2014	Summer	25.77	167	408	30	66.80
2007	7 Jul	2005–2014	Summer	20.74	100	0	31	55.55
2007	8 Aug	2005–2014	Summer	14.66	103	0	31	39.27
2007	9 Sep	2005–2014	Autumn	8.55	112	0	30	22.16
2007	10 Oct	2005–2014	Autumn	9.25	153	38	31	24.78
2007	11 Nov	2005–2014	Autumn	5.41	137	206	30	14.02
2007	12 Dec	2005–2014	Winter	2.69	171	434	31	7.20
2008	1 Jan	2005–2014	Winter	1.06	145	627	31	2.84
2008	2 Feb	2005–2014	Winter	0.90	100	758	29	2.26
2008	3 Mar	2005–2014	Spring	0.94	148	950	31	2.52
2008	4 Apr	2005–2014	Spring	1.50	109	1,070	30	3.89
2008	5 May	2005–2014	Spring	10.07	164	1,073	31	26.97
2008	6 Jun	2005–2014	Summer	27.58	179	700	30	71.49
2008	7 Jul	2005–2014	Summer	30.79	169	0	31	82.47
2008	8 Aug	2005–2014	Summer	21.49	131	0	31	57.56
2008	9 Sep	2005–2014	Autumn	12.33	117	0	30	31.96
2008	10 Oct	2005–2014	Autumn	10.34	177	31	31	27.69
2008	11 Nov	2005–2014	Autumn	5.98	133	191	30	15.50
2008	12 Dec	2005–2014	Winter	2.98	104	327	31	7.98
2009	1 Jan	2005–2014	Winter	1.10	187	577	31	2.95

2009	2 Feb	2005–2014Winter	0.80	133	754	28	1.94
2009	3 Mar	2005–2014Spring	1.13	193	1,002	31	3.03
2009	4 Apr	2005–2014Spring	2.51	93	1,087	30	6.51
2009	5 May	2005–2014Spring	13.82	115	927	31	37.02
2009	6 Jun	2005–2014Summer	28.87	93	451	30	74.83
2009	7 Jul	2005–2014Summer	21.35	105	0	31	57.18
2009	8 Aug	2005–2014Summer	12.91	94	0	31	34.58
2009	9 Sep	2005–2014Autumn	8.02	99	0	30	20.79
2009	10 Oct	2005–2014Autumn	11.04	215	18	31	29.57
2009	11 Nov	2005–2014Autumn	7.08	100	133	30	18.35
2009	12 Dec	2005–2014Winter	3.65	200	398	31	9.78
2010	1 Jan	2005–2014Winter	1.15	84	509	31	3.08
2010	2 Feb	2005–2014Winter	0.82	183	754	28	1.98
2010	3 Mar	2005–2014Spring	0.92	133	924	31	2.46
2010	4 Apr	2005–2014Spring	1.31	184	1,150	30	3.40
2010	5 May	2005–2014Spring	10.74	136	1,084	31	28.77
2010	6 Jun	2005–2014Summer	25.68	108	688	30	66.56
2010	7 Jul	2005–2014Summer	27.48	93	0	31	73.60
2010	8 Aug	2005–2014Summer	17.56	119	0	31	47.03
2010	9 Sep	2005–2014Autumn	14.77	195	0	30	38.28
2010	10 Oct	2005–2014Autumn	14.27	239	147	31	38.22
2010	11 Nov	2005–2014Autumn	7.80	93	260	30	20.22
2010	12 Dec	2005–2014Winter	3.61	193	515	31	9.67
2011	1 Jan	2005–2014Winter	1.15	102	649	31	3.08
2011	2 Feb	2005–2014Winter	1.23	119	800	28	2.98
2011	3 Mar	2005–2014Spring	1.53	151	987	31	4.10
2011	4 Apr	2005–2014Spring	3.43	21	959	30	8.89
2011	5 May	2005–2014Spring	12.15	125	860	31	32.54
2011	6 Jun	2005–2014Summer	25.25	121	225	30	65.45
2011	7 Jul	2005–2014Summer	19.81	151	0	31	53.06
2011	8 Aug	2005–2014Summer	13.59	119	0	31	36.40
2011	9 Sep	2005–2014Autumn	9.34	120	0	30	24.21
2011	10 Oct	2005–2014Autumn	8.21	126	0	31	21.99
2011	11 Nov	2005–2014Autumn	5.75	103	110	30	14.90
2011	12 Dec	2005–2014Winter	2.65	72	203	31	7.10
2012	1 Jan	2005–2014Winter	1.37	67	289	31	3.67
2012	2 Feb	2005–2014Winter	0.93	135	468	29	2.33
2012	3 Mar	2005–2014Spring	0.99	73	557	31	2.65
2012	4 Apr	2005–2014Spring	2.94	140	702	30	7.62
2012	5 May	2005–2014Spring	15.74	117	469	31	42.16
2012	6 Jun	2005–2014Summer	20.85	149	0	30	54.04
2012	7 Jul	2005–2014Summer	16.03	128	0	31	42.93
2012	8 Aug	2005–2014Summer	10.32	92	0	31	27.64
2012	9 Sep	2005–2014Autumn	8.17	111	0	30	21.18
2012	10 Oct	2005–2014Autumn	9.44	163	0	31	25.28
2012	11 Nov	2005–2014Autumn	5.77	158	194	30	14.96
2012	12 Dec	2005–2014Winter	3.10	154	393	31	8.30
2013	1 Jan	2005–2014Winter	1.21	146	588	31	3.24
2013	2 Feb	2005–2014Winter	0.89	105	727	28	2.15
2013	3 Mar	2005–2014Spring	0.96	146	915	31	2.57
2013	4 Apr	2005–2014Spring	1.87	174	1,115	30	4.85
2013	5 May	2005–2014Spring	10.94	130	1,027	31	29.30
2013	6 Jun	2005–2014Summer	30.96	205	620	30	80.25
2013	7 Jul	2005–2014Summer	30.06	132	0	31	80.51
2013	8 Aug	2005–2014Summer	18.26	93	0	31	48.91
2013	9 Sep	2005–2014Autumn	10.37	103	0	30	26.88
2013	10 Oct	2005–2014Autumn	8.53	148	0	31	22.85

2013	11 Nov	2005–2014	Autumn	4.87	147	184	30	12.62
2013	12 Dec	2005–2014	Winter	2.48	90	303	31	6.64
2014	1 Jan	2005–2014	Winter	1.11	181	542	31	2.97
2014	2 Feb	2005–2014	Winter	1.04	123	703	28	2.52
2014	3 Mar	2005–2014	Spring	1.25	124	857	31	3.35
2014	4 Apr	2005–2014	Spring	2.30	131	998	30	5.96
2014	5 May	2005–2014	Spring	13.27	195	949	31	35.54
2014	6 Jun	2005–2014	Summer	29.67	177	549	30	76.90
2014	7 Jul	2005–2014	Summer	26.08	128	0	31	69.85
2014	8 Aug	2005–2014	Summer	19.22	185	0	31	51.48
2014	9 Sep	2005–2014	Autumn	12.22	131	0	30	31.67
2014	10 Oct	2005–2014	Autumn	11.33	177	0	31	30.35
2014	11 Nov	2005–2014	Autumn	7.09	106	112	30	18.38
2014	12 Dec	2005–2014	Winter	3.45	152	312	31	9.24
2015	1 Jan	2015–2024	Winter	1.73	83	414	31	4.63
2015	2 Feb	2015–2024	Winter	1.56	132	581	28	3.77
2015	3 Mar	2015–2024	Spring	2.94	80	651	31	7.87
2015	4 Apr	2015–2024	Spring	5.14	78	694	30	13.32
2015	5 May	2015–2024	Spring	20.13	131	366	31	53.92
2015	6 Jun	2015–2024	Summer	19.05	144	0	30	49.38
2015	7 Jul	2015–2024	Summer	16.13	163	0	31	43.20
2015	8 Aug	2015–2024	Summer	9.59	68	0	31	25.69
2015	9 Sep	2015–2024	Autumn	8.77	117	0	30	22.73
2015	10 Oct	2015–2024	Autumn	9.31	167	0	31	24.94
2015	11 Nov	2015–2024	Autumn	6.48	121	131	30	16.80
2015	12 Dec	2015–2024	Winter	3.46	76	225	31	9.27
2016	1 Jan	2015–2024	Winter	1.36	89	343	31	3.64
2016	2 Feb	2015–2024	Winter	0.95	88	458	29	2.38
2016	3 Mar	2015–2024	Spring	1.20	104	584	31	3.21
2016	4 Apr	2015–2024	Spring	4.05	146	730	30	10.50
2016	5 May	2015–2024	Spring	12.46	121	629	31	33.37
2016	6 Jun	2015–2024	Summer	19.15	67	186	30	49.64
2016	7 Jul	2015–2024	Summer	14.63	119	0	31	39.18
2016	8 Aug	2015–2024	Summer	13.07	165	0	31	35.01
2016	9 Sep	2015–2024	Autumn	7.55	57	0	30	19.57
2016	10 Oct	2015–2024	Autumn	5.84	78	0	31	15.64
2016	11 Nov	2015–2024	Autumn	3.82	96	100	30	9.90
2016	12 Dec	2015–2024	Winter	2.38	155	302	31	6.37
2017	1 Jan	2015–2024	Winter	1.32	121	463	31	3.54
2017	2 Feb	2015–2024	Winter	0.90	128	632	28	2.18
2017	3 Mar	2015–2024	Spring	1.10	111	770	31	2.95
2017	4 Apr	2015–2024	Spring	3.48	77	824	30	9.02
2017	5 May	2015–2024	Spring	11.98	105	710	31	32.09
2017	6 Jun	2015–2024	Summer	25.53	147	314	30	66.17
2017	7 Jul	2015–2024	Summer	19.15	127	0	31	51.29
2017	8 Aug	2015–2024	Summer	15.38	168	0	31	41.19
2017	9 Sep	2015–2024	Autumn	12.00	168	0	30	31.10
2017	10 Oct	2015–2024	Autumn	10.42	131	0	31	27.91
2017	11 Nov	2015–2024	Autumn	5.46	137	173	30	14.15
2017	12 Dec	2015–2024	Winter	2.36	84	280	31	6.32
2018	1 Jan	2015–2024	Winter	1.23	203	549	31	3.29
2018	2 Feb	2015–2024	Winter	1.12	49	609	28	2.71
2018	3 Mar	2015–2024	Spring	1.39	103	734	31	3.72
2018	4 Apr	2015–2024	Spring	3.41	49	747	30	8.84
2018	5 May	2015–2024	Spring	15.19	144	604	31	40.68
2018	6 Jun	2015–2024	Summer	21.60	101	95	30	55.99
2018	7 Jul	2015–2024	Summer	15.61	88	0	31	41.81

2018	8 Aug	2015–2024	Summer	12.84	140	0	31	34.39
2018	9 Sep	2015–2024	Autumn	9.21	117	0	30	23.87
2018	10 Oct	2015–2024	Autumn	6.37	59	0	31	17.06
2018	11 Nov	2015–2024	Autumn	4.06	99	105	30	10.52
2018	12 Dec	2015–2024	Winter	2.33	107	238	31	6.24
2019	1 Jan	2015–2024	Winter	1.55	141	423	31	4.15
2019	2 Feb	2015–2024	Winter	1.32	128	588	28	3.19
2019	3 Mar	2015–2024	Spring	1.57	143	763	31	4.21
2019	4 Apr	2015–2024	Spring	6.55	139	840	30	16.98
2019	5 May	2015–2024	Spring	17.31	142	628	31	46.36
2019	6 Jun	2015–2024	Summer	23.89	126	36	30	61.92
2019	7 Jul	2015–2024	Summer	16.86	99	0	31	45.16
2019	8 Aug	2015–2024	Summer	13.01	146	0	31	34.85
2019	9 Sep	2015–2024	Autumn	10.44	145	0	30	27.06
2019	10 Oct	2015–2024	Autumn	7.92	83	0	31	21.21
2019	11 Nov	2015–2024	Autumn	4.41	183	224	30	11.43
2019	12 Dec	2015–2024	Winter	2.66	173	444	31	7.12
2020	1 Jan	2015–2024	Winter	1.64	115	593	31	4.39
2020	2 Feb	2015–2024	Winter	1.23	91	711	29	3.08
2020	3 Mar	2015–2024	Spring	1.67	112	840	31	4.47
2020	4 Apr	2015–2024	Spring	2.37	30	844	30	6.14
2020	5 May	2015–2024	Spring	12.82	144	739	31	34.34
2020	6 Jun	2015–2024	Summer	27.67	135	273	30	71.72
2020	7 Jul	2015–2024	Summer	19.06	109	0	31	51.05
2020	8 Aug	2015–2024	Summer	12.37	110	0	31	33.13
2020	9 Sep	2015–2024	Autumn	8.94	127	0	30	23.17
2020	10 Oct	2015–2024	Autumn	8.65	129	0	31	23.17
2020	11 Nov	2015–2024	Autumn	6.34	100	97	30	16.43
2020	12 Dec	2015–2024	Winter	2.98	113	247	31	7.98
2021	1 Jan	2015–2024	Winter	1.53	167	467	31	4.10
2021	2 Feb	2015–2024	Winter	1.02	105	604	28	2.47
2021	3 Mar	2015–2024	Spring	1.38	170	818	31	3.70
2021	4 Apr	2015–2024	Spring	5.18	155	956	30	13.43
2021	5 May	2015–2024	Spring	20.56	138	644	31	55.07
2021	6 Jun	2015–2024	Summer	23.46	87	246	30	60.81
2021	7 Jul	2015–2024	Summer	17.38	129	0	31	46.55
2021	8 Aug	2015–2024	Summer	12.65	154	0	31	33.88
2021	9 Sep	2015–2024	Autumn	8.98	94	0	30	23.28
2021	10 Oct	2015–2024	Autumn	8.77	142	0	31	23.49
2021	11 Nov	2015–2024	Autumn	5.94	117	125	30	15.40
2021	12 Dec	2015–2024	Winter	3.17	75	220	31	8.49
2022	1 Jan	2015–2024	Winter	1.57	94	339	31	4.21
2022	2 Feb	2015–2024	Winter	1.96	54	393	28	4.74
2022	3 Mar	2015–2024	Spring	2.40	114	521	31	6.43
2022	4 Apr	2015–2024	Spring	6.32	81	523	30	16.38
2022	5 May	2015–2024	Spring	16.72	96	128	31	44.78
2022	6 Jun	2015–2024	Summer	11.53	86	0	30	29.89
2022	7 Jul	2015–2024	Summer	8.18	40	0	31	21.91
2022	8 Aug	2015–2024	Summer	8.38	120	0	31	22.44
2022	9 Sep	2015–2024	Autumn	8.10	97	0	30	21.00
2022	10 Oct	2015–2024	Autumn	6.66	76	0	31	17.84
2022	11 Nov	2015–2024	Autumn	7.60	124	65	30	19.70
2022	12 Dec	2015–2024	Winter	4.55	119	211	31	12.19
2023	1 Jan	2015–2024	Winter	2.62	141	394	31	7.02
2023	2 Feb	2015–2024	Winter	1.65	127	555	28	3.99
2023	3 Mar	2015–2024	Spring	2.31	122	690	31	6.19
2023	4 Apr	2015–2024	Spring	7.48	101	691	30	19.39

2023	5 May	2015–2024	Spring	18.89	69	348	31	50.59
2023	6 Jun	2015–2024	Summer	13.26	79	0	30	34.37
2023	7 Jul	2015–2024	Summer	12.24	131	0	31	32.78
2023	8 Aug	2015–2024	Summer	10.61	147	0	31	28.42
2023	9 Sep	2015–2024	Autumn	10.83	143	0	30	28.07
2023	10 Oct	2015–2024	Autumn	9.56	126	0	31	25.61
2023	11 Nov	2015–2024	Autumn	9.26	147	126	30	24.00
2023	12 Dec	2015–2024	Winter	4.71	125	288	31	12.62
2024	1 Jan	2015–2024	Winter	2.43	145	479	31	6.51
2024	2 Feb	2015–2024	Winter	1.03	171	706	29	2.58
2024	3 Mar	2015–2024	Spring	1.42	153	896	31	3.80
2024	4 Apr	2015–2024	Spring	4.14	185	1,098	30	10.73
2024	5 May	2015–2024	Spring	15.61	165	990	31	41.81
2024	6 Jun	2015–2024	Summer	35.83	243	507	30	92.87
2024	7 Jul	2015–2024	Summer	25.38	189	0	31	67.98
2024	8 Aug	2015–2024	Summer	16.70	119	0	31	44.73
2024	9 Sep	2015–2024	Autumn	12.05	186	0	30	31.23
2024	10 Oct	2015–2024	Autumn	12.93	206	0	31	34.63
2024	11 Nov	2015–2024	Autumn	7.77	154	184	30	20.14
2024	12 Dec	2015–2024	Winter	3.67	123	344	31	9.83