Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts.

Supplementary Data

Country	Pub. yr	Glacier	Altitude	Area	Chemical	Peak Concentration (ng/L)	Sample Date	Sample Type	Author
Canada	2001	Bow	2600 m	3.57 km^2	HCB	0.0057	1998	Water samples	Blais et al.
					Y-HCH	0.11	1998		
					α-HCH	0.22	1998		
Italy	2006	Lys	4240 m	9 km^2	DDT	0.25	2000	Water samples	Villa et al.
					HCB	0.03	2000		
					α-HCH	1.28	2000		
					Y-HCH	1.41	2000		
		Forni	2300 m	6 km^2	DDT	0.15	2000		
					HCB	0.02	2000		
					α-HCH	0.53	2000		
					Y-HCH	1.55	2000		
		Miage	3892 m	10 km^2	DDT	0.5	2002		
					HCB	0.25	2002		
					α-HCH	0.15	2002		
					Y-HCH	0.75	2002		
		Col De Mar	2100 m	5.5 km^2	DDT	0.25	2002		
					HCB	0.25	2002		
					α-HCH	0.25	2002		
					Y-HCH	1	2002		
Italy	2009	Forni	2300 m	6 km^2	DDT	0.52	2006	Water samples	Bizzotto et al.
					HCB	0.16	2006		
					ΣPCB	31.7	2006		
					α-HCH	0.42	2006		
					Y-HCH	0.41	2006		
Italy	2017	Lys	4240 m	9 km^2	DDT	0.33	2014	Water samples	Ferrario et al.
					HCB	0.03	2014		
					ΣPCB	0.76	2014		
					α-HCH	0.74	2014		
					Y-HCH	0.44	2014		
		Forni	2300 m	6 km^2	HCB	0.04	2014		
					DDT	0.46	2014		
					ΣPCB	0.35	2014		
		Giolo Alto	3260	.95 km^2	HCB	0.02	2014		
					DDT	0.1	2014		
					ΣPCB	0.6	2014		
Switzerland	2015	Silvretta	3160 m	3.35 km^2	ΣPCB	0.29	2012	Water samples	Pavlova et al.
					ΣPCB	0.37	2013		

Table 1. Glacial meltwater samples with peak OCPs concentrations. The source glacier, years sampled and publication are referenced.[32,59,87,97,102]

Country	Pub. Yr	Glacier	Altitude	Area	Chemical	Peak Concentration (ng/L)	Sample Layer	Sample Type	Author
Svalbard	1998	Austfonna	740 m		α-HCH	1.1	1957-1972	Ice core	Hermanson et al
					Y-HCH	7.7	1979-1986		
	2013	Lomonosovfonna	1202 m	600 km^2	ΣPCB	1.525	1998-2009	Ice core	Garmash et al.
Canada	1999	Snow Dome	3456 m	325 km^2	DDT	2.5	1983	Crevasse ice	Donald et al.
					HCB	0.05	1961		
					Y-HCH	0.12	1961		
					α-HCH	1.82	1994		
Italy	2003	Lys	4240 m	9 km^2	DDT	10	1994-1996	Ice core	Villa et al.
					HCB	0.7	1985-1987		
					α-HCH	20	1964-1972		
					Y-HCH	20	1964-1972		
	2001				ΣPCB	7	1984-1987		
China	2008	East Rongbuk	6518 m		DDT	1.9	1973	Ice core	Wang et al.
					α-HCH	6.5	1971		
Italy	2006	Lys	4240 m	9 km^2	DDT	0.646	1998	Firn Core	Villa et al.
					HCB	0.168	1998		
					ΣPCB	9.95	1998		
					Y-HCH	2.43	1999		
Switzerland	2014	Fiescherhorn	3900 m	3 km^2	ΣPCB	6	1971-1975	Ice core	Pavlova et al.
Switzerland	2015	Grenz	4200 m	50 km^2	ΣPCB	15	1970-1975	Ice core	Pavlova eta al.
Switzerland	2015	Silvretta	2927 m	3 km^2	ΣPCB	12.5	1970-1971	Ice core	Pavlova et al.

Table 2. Selection of ice cores from alpine glaciers taken to study the OCPs concentration by depth and time. Peak OCPs concentrations found in specific sample layers, representing the years of greatest OCPs deposition. Peak deposition in samples correlated with global usage peaks.[10,24,60,88,92,95,96]

Country	Pub. yr	Glacier	Altitude	Area	Chemical	Peak Concentration (ng/L)	Sample Date	Sample Type	Author
Switzerland	2009	Oberaar F	3200 m	5.82 sq km	DDT	13 µg/m2/y	1960-1970	Sediment Cores	Bogdal et al.
					Dieldrin	1.4 µg/m2/y	1960-1970		
					HCB	24 µg/m2/y	1960-1970		
					ΣPCB	75 µg/m2/y	1960-1970		
					Y-HCH	.6 µg/m2/y	1960-1970		
					DDT	65 µg/m2/y	1995-2005		
					Dieldrin	.5 µg/m2/y	1995-2005		
					HCB	40 µg/m2/y	1995-2005		
					ΣPCB	75 µg/m2/y	1995-2005		
					Y-HCH	2.1 µg/m2/y	1995-2005		
Switzerland	2011	Stein Glac	2900 m	6.06 sq km	DDT	44 µg/m2/y	1975	Sediment Cores	Schmid et al.
					ΣPCB	225 µg/m2/y	1973		
					DDT	28 µg/m2/y	2006		
					ΣPCB	245 µg/m2/y	2006		

Table 3. Selection of sediment cores from remote, alpine glacier lakes taken to study the OCPs concentration by depth and time. Table presents peak OCPs concentrations found in specific sample layers, representing the years of greatest OCPs deposition. Peak deposition in samples correlated with direct deposition during global usage peaks and subsequent delayed release from glaciers.[16,101]