

Table S1: Compiled dataset of measured lake areas and mean depths.

Glacier or Lake	Location	Survey date	Study	Lake Area (m ²)	Mean depth (m)
Ape Lake	British Columbia, Canada	1984-85	Gilbert and Desloges (1987)	2770606	33.5
Bashkara	Caucasus, Russia	2005?	Petrokov et al. (2007)	65000	11.3
Brazo Rico, Perito Moreno	South Patagonia	pre-1999	Stuefer et al. (2007)	172000000	78.8
Cachet II	North Patagonia	2008-9	Casassa et al. (2010), Loriaux & Casassa (2013)	4045000	49.4
Dig Tsho	Himalaya (Nepal)	1999	Mool et al. (2001)	500000	20.0
Godley	Southern Alps, New Zealand	1994	Warren and Kirkbride (1998)	1650000	56.2
Godley	Southern Alps, New Zealand	1994	Allen et al. (2009)	1700000	60.0
Gopang Gath	Himalaya (Himachal Pradesh)	2010	Worni et al. (2012)	580000	30.0
Guangxiecuo Lake	Himalaya (Tibet)	1988	Jiang et al. (2004)	272000	10.2
Hazard / Steele	Yukon, Canada	1974	Collins and Clarke (1977)	880000	16.0
Hazard / Steele	Yukon, Canada	1979	Clarke (1982)	1274000	15.5
Hidden Creek Lake	Alaska	1999-2000	Cunico (2003)	822492	25.8
Imja	Himalaya (Nepal)	1992	Fujita et al. (2009)	600000	47.0
Imja	Himalaya (Nepal)	2002	Fujita et al. (2009)	864000	41.6
Imja	Himalaya (Nepal)	2009	Sakai (2004, 2012)	1010000	35.1
Imja	Himalaya (Nepal)	2012	Somos-Valenzuela et al. (2013)	1210000	52.6
Ivory	Southern Alps, New Zealand	1986	Hicks et al. (1990)	117931	23.7
Ivory	Southern Alps, New Zealand	1976	Hicks et al. (1990)	73000	21.3
Ivory	Southern Alps, New Zealand	1980	Hicks et al. (1990)	98414	20.5
Lake No Lake	British Columbia, Canada	1999	Geertsema and Clague (2005)	5000000	150.0
Leones	North Patagonia	2001	Harrison et al. (2008); Loriaux and Casassa (2013)	19501000	125.9
Longbasaba	Himalaya (Tibet)	2009	Yao et al. (2012)	1218700	48.0

Maud Lake	Southern Alps, New Zealand	1994	Allen et al. (2009)	1300000	60.0
Miage	Alps, Italy	2003	Diolaiuti et al. (2005)	35900	9.5
Mt Elbrus	Caucasus, Russia	2000	Petrakov et al. (2007)	89000	6.2
MT Lake Mueller	British Columbia, Canada	1982-3	Blown and Church (1985)	41600	11.9
	Southern Alps, New Zealand	2002	Allen et al. (2009)	500000	8.6
Nef	North Patagonia	1998?	Loriaux & Casassa (2013); Warren et al. (2001)	5133000	150.1
Ngozumpa	Himalaya (Nepal)	2009	Thomson et al. (2012)	300000	10.0
Ngozumpa 2	Himalaya (Nepal)	2008	Sharma et al. (2012)	185100	21.7
Ngozumpa 3	Himalaya (Nepal)	2008	Sharma et al. (2012)	427900	25.3
Ngozumpa 4	Himalaya (Nepal)	2008	Sharma et al. (2012)	572900	27.4
Petrov Lake	Tien Shan	1978	Sevast'yanov and Funtikov (1981); Loriaux and Casassa (2013)	1630000	12.3
Petrov Lake	Tien Shan	2003	Engel et al. (2012)	3660000	14.6
Petrov Lake	Tien Shan	2006	Janský et al. (2010)	3905000	15.4
Petrov Lake	Tien Shan	2006	Engel et al. (2012)	3800000	15.6
Petrov Lake	Tien Shan	2008	Engel et al. (2012)	3880000	16.0
Petrov Lake	Tien Shan	2009	Janský et al. (2009); Loriaux and Casassa (2013)	3900000	16.4
Pida	Himalaya (Tibet)	2005	Xin et al. (2008)	970000	52.0
Spong Togpo	Himalaya (Jammu and Kashmir)	2010	Worni et al. (2012)	150000	12.0
Tulsequah	British Columbia, Canada	1958	Marcus (1960)	3861900	60.9
Zanam C	Himalaya (Bhutan)	2008	Fujita et al. (2012)	160000	10.6
